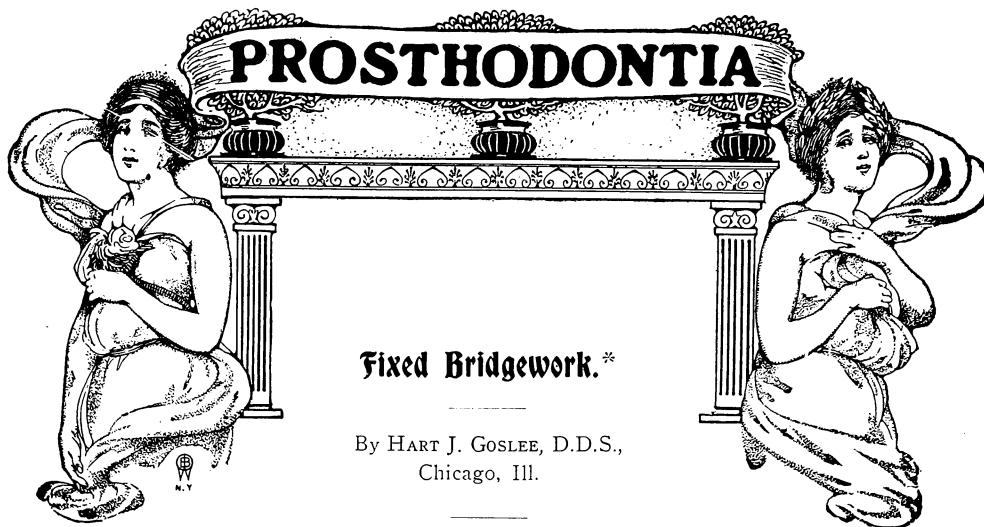


JOHN NUTTING FARRAR

FROM A BUST STATUE



Fixed Bridgework.*

By HART J. GOSLEE, D.D.S.,
Chicago, Ill.

(Application and Construction of Dummies: Anterior Dummies; Selection of Facings, Adaptation, Backing. Artificial Restoration of Gum. Posterior Dummies; Porcelain Faced Bicuspid and Molars; Application, Selection of Facings, Backing, Occlusion, Carved Cusps, Attaching Facing and Cusps, Continuous Cusps, Die-Plate Cusps. All-Gold Dummies; Indications, Construction. Occlusal Surface Dummies; Indications, Construction.)

Application and Construction of Dummies.

An effort toward a systematic presentation of the various methods of "attachment" and "support" for "fixed" bridgework, is necessarily followed by a consideration of the construction and employment of the "dummies" which are to be attached thereto, and which are to act as substitutes for the missing teeth, thus, in a general way, forming the "body" of the bridge.

In the development of this class of work any number of designs of artificial teeth have been introduced, but only a few are, at the present time, regarded as being practicable, and more or less generally applicable.

Posterior "Dummies."

In supplying missing teeth anterior to, and often including the first bicuspid (where an occlusal surface is seldom required), the ordinary long-pin, "flat-back" facing, is generally used.

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**Selection
of Facings.**

In the construction of bridges involving anterior teeth, the facings which are to substitute the missing teeth should be selected as soon as the final model with the "attachments" in place, has been secured. (Fig. 266.) In their selection it should be observed, *first*, that they fill the space between the attachments; *second*, that they are as nearly as possible proportionate in size, *as to length and width*, with the crowns of the remaining natural anterior teeth not included in the bridge; and *third*,

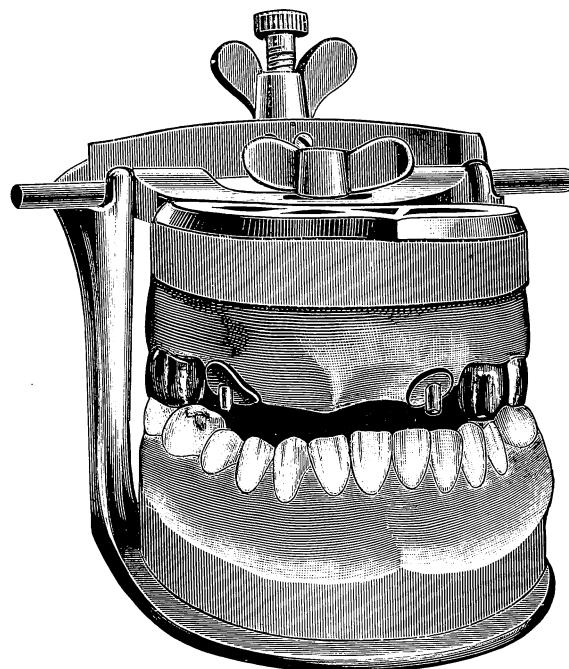


Fig. 266.

that the color closely resembles that of the natural teeth. In this latter connection it must be remembered that the presence of the metal backing always darkens the shade of the facing, and also, that in the event of not being able to perfectly match the shade, one slightly darker is invariably preferable to one the least bit lighter. It is also well to consider the variations in the shade of the natural teeth in the same mouth, as previously mentioned, and to make the selection accordingly.

Adaptation. As soon as the desired selection has been made, a small roll of soft wax should be sealed to the model, and the facings then ground until their necks are perfectly fitted to the gum, and then until they nicely fill the space without being in absolute contact with each other. The latter requirement is necessary as a means of preventing impingement from the shrinkage of the solder in assembling, which if not observed, might result in fracturing the porcelain.

When the neck of the facing has been closely adapted to the outline of the model, the extreme edge should always be rounded until blunt and smooth, in order that no irritation to the soft tissue may thereby be offered.

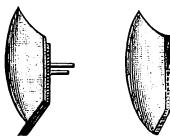


Fig. 267.

As it is necessary for cosmetic and hygienic reasons that the end of the facing should rest in direct contact with the gum, this feature must be observed, or inflammation and often hypertrophy will result.

Backing. When these requirements have been observed the incisal or occlusal end of the facings should be beveled to a more or less thin edge, and a double, or otherwise well reinforced backing then adapted in accordance with the requirements in this connection, as previously outlined for single crowns, except that the backing should never extend to the extreme cervical end, nor be allowed to interfere with the direct adaptation of this end of the facing to the gum. (Fig. 267.)

When allowed to project beyond the cervical *shoulder* on the facing, its presence offers no protection to the porcelain, but only interferes with the accuracy of the desired adaptation to the gum, and, unless amply reinforced, would be likely to draw away from the porcelain and thus produce a joint or pocket for the accumulation of secretions which would be decidedly unhygienic.

When double, or well and otherwise uniformly reinforced backings are thus adapted and securely retained to the porcelain by bending the pins, they should be separately finished with files or stones, and then, even with fine disks to the point of polishing, in order to preclude the possibility of overhanging edges.

It has already been observed that, for cosmetic **Artificial Restoration of Gum.** reasons, the artificial tooth should always be of the same exact length as the crowns of the adjacent or corresponding natural teeth, yet the excessive absorption frequently found to exist where bridgework is indicated often precludes this, or demands the special preparation of facings, or the employment of gum-block teeth.

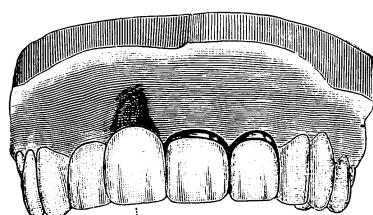


Fig. 268.

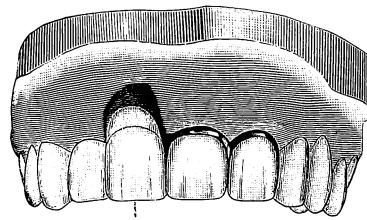


Fig. 268.

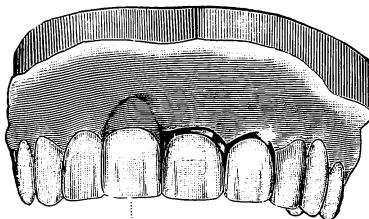


Fig. 268.

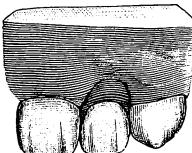


Fig. 268. d.

While gum-block, long-pin teeth may sometimes be selected, properly ground and used to good advantage in this class of cases, still the demand for them is not great enough to warrant their being manufactured in large numbers, or in great variety, and hence it may frequently be necessary to select a plain tooth, and build a neck of gum-enamel upon it.

This may be done in a most artistic manner by mixing any of the gum-enamel porcelain "bodies," of the proper gum-color, to a thick consistency, and building an extension upon the neck of the individual facing or facings, of proportions which will admit of being ground to the desired adaptation after fusing.

In observing this procedure a facing of the exact length of the adjacent natural crowns (Fig. 268, A), or one even longer if prepared by grinding a shoulder at the proper point (Fig. 268, B), should be selected, and the gum-enamel then built on and fused, after which it may be ground

to the desired adaptation (Fig. 268, C), and one fusing is usually all that is necessary. The possibilities in this connection as applied to the anterior teeth are illustrated in Fig. 268, D, and as applied to the bicuspids have been previously illustrated in Fig. 257.

Posterior "Dummies."

The requirements incident to the application and construction of dummies for the posterior part of the mouth, where masticating surfaces are necessarily involved, present phases of a much more varied and complex character.

This is due largely to the more diversified conditions of absorption and occlusion which are encountered in this part of the mouth, and which will in turn govern the indications for the application of any of the methods used.

The requirements of contact between the necks of artificial teeth and the gum tissue, while perhaps not so exacting as compared with the eight anterior teeth, for purely cosmetic reasons, are nevertheless an important consideration, and may be summed up in general by the statement that the same accuracy of adaptation as applied to the anterior teeth should obtain, or else there should be *no contact* at all, and this applies both to the facings, or to the body of the bridge, as the case may be constructed.

Porcelain Faced Bicuspids and Molars.

Perhaps the most generally applicable and commonly used style of construction for bicuspid and molars "dummies" consists in using long-pin, "flat-back" porcelain facings in combination with an occlusal surface of gold.

The use of this particular method is indicated

Application. wherever the cosmetic requirements demand the presence of porcelain, and yet, where the demands for strength seem to contraindicate the employment of *all-porcelain* bridges—and while it is very apparent that even an occlusal surface of gold is more or less objectionable on any of the twelve anterior teeth, still the fairly esthetic results, combined with the possibilities for strength, and accuracy of occlusion, make such a type of construction quite generally useful.

Selection of Facings. In selecting the facings it will often be found that those designed for the *cuspid* teeth can be used to better advantage for bicuspid dummies, than can the "bicuspid" facings which are made for the purpose. A color somewhat darker than the anterior teeth should always be obtained, and in order that as nearly uniform proportions as possible may prevail, it is usually better, for example, to fill a given space with two

facings of fairly good size than with three small ones; better for two reasons, first, because the size will usually correspond more closely with that of the remaining natural teeth, and second, because less grinding will be necessary, and hence, greater strength will result.



Fig. 269.

Backing. When the facings have been selected and ground to the proper adaptation to the model, and with an allowance for the thickness of the cusps, *without destroying the occlusal angles*, the usual preparation of the occlusal end for the backing should be observed. As the cusps to be subsequently at-

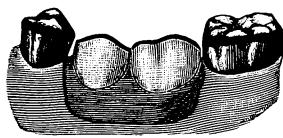


Fig. 270.

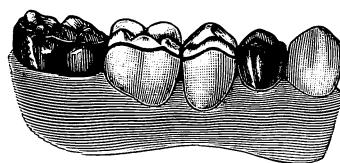


Fig. 271.

tached will afford the necessary reinforcement, a single backing of 34 gauge, pure gold, is all that is required, and this should be closely adapted to the facing, trimmed to the *cervical shoulder*, as indicated in anterior dummies, and even with the approximal edges. A slight surplus, however, should remain upon the occlusal edge (Fig. 269), as a means of aiding in the adjustment of the cusps, and of insuring the penetration of the solder between them and the backing, thus making a close, flush joint.

Occlusion. While the cusps may be formed with any of the various die-plate systems, the best results are usually to be obtained by making individual cusps to fit both the facing and the occlusion, as described in connection with the telescope crown, and for the same reasons.

Carved Cusps. When the cusps are to be constructed in this manner, the backings should be retained to the facings by simply bending one of the pins down upon it, allowing the other pin to remain out straight, or slightly crooked. The

PROSTHODONTIA

facings should now be adjusted to position on the model, and temporarily retained thereon from the buccal side, with wax. (Fig. 270.)

Ordinary means of preventing the plaster from adhering to the model should now be observed, and thin well mixed plaster then poured in against the backings, and the articulator firmly closed. After hardening, the plaster cusps thus formed, which are retained to the facings because of the position of the remaining pin, should then be trimmed and carved as previously described. (Fig. 271.)

In the carving, any interlocking of the cusps with the opposing teeth should be avoided, and when this part of the procedure has been accomplished in a satisfactory manner, the plaster cusps, with their respective



Fig. 272.

Fig. 273.

facings, may be separated from each other with a *very thin* ribbon separating file, or mechanical saw, after which the cusp-button, or die, if preferable, and counter die for each one should be made, and the cusps swaged.

In fitting the gold cusps to the facing, when the plaster cusps have been detached, care should be exercised to avoid a buccal edge of gold which would be necessarily conspicuous, hence this portion of the cusps should be cut away until when approximated with the backing, only a single thickness of gold remains (Fig. 272), and this should, of course, at the time properly occlude with the opposing teeth.

When thus fitted and all overhanging edges or any possible impingement is avoided, the relation should be sustained with wax, and each dummy then separately invested and soldered.

Attaching Facing and Cusps. In the attachment of facing and cusps with solder, it is desirable that the individual dummy should be completed as nearly as possible, at the same time, and hence, for hygienic reasons, the form of the lingual surface of each should be made of a more or less *convex* shape, in order to avoid the formation of an inaccessible pocket between the cusps and the gum, when the bridge is finally mounted. (Fig. 273.)

This desirable form may be obtained by carefully shaping and fitting a plate of 22K. gold about 30 gauge to the desired outline, after investing, and before heating the case, and then when the cusps have been sufficiently reinforced with solder, placing this form in position and simply



attaching it to the edges of backing and cusps with solder. (Fig. 274.) Such a type of construction offers the advantages of economy of material, and weight, of the finished piece, and is particularly applicable to large, long facings.



Fig. 274.

A similar shape may also be obtained by the use of solder alone; or scrap gold and solder, or by the more economical means of partially filling the space with german-silver forms made for the purpose (Fig. 275), or with small globules of pure copper or silver, any of which may be used with 18K. solder. The latter procedures are permissible providing such

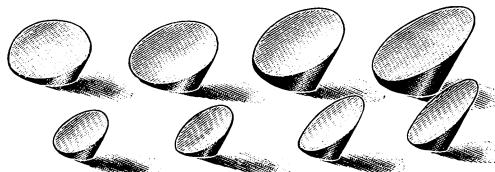


Fig. 275.

forms or globules are not melted in the fusion of the solder, thus becoming alloyed with it, and also provided that they are then adequately covered with the solder so as to completely bury them, and preclude the decidedly metallic taste which would be very apparent and objectionable if at all superficially exposed to the action of the secretions.

The early practice of grinding the occlusal ends of the facings flat and blunt, allowing the cusps to remain of uniform depth, filling them flush with solder, and then placing the facings square on top of the gold, without any intervening backing, is not productive of the artistic results now usually demanded. Facings and cusps made by old as compared with the more modern method when the angles of the facing are preserved, are shown in Fig. 276.

The making of cusp-forms for two or even **Continuous Cusps.** more facings at one time, and in one continuous piece, is sometimes practiced, but is not as reliable a procedure as the former method of making them separately, for the

PROSTHODONTIA

reason that the difficulty of accurately fitting such forms to the ends of the facings and to the occlusion, at the same time, is proportionately increased, as is also the danger of fracturing the facings in attaching them to the cusps. Hence the former type of construction is the safest, and, in general practice, the most expedient method. Except in very small cases, or in rare instances, such time-saving procedures should not be resorted to, and are not productive of the very best results.

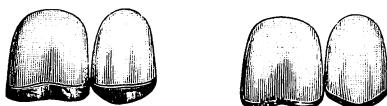


Fig. 276.

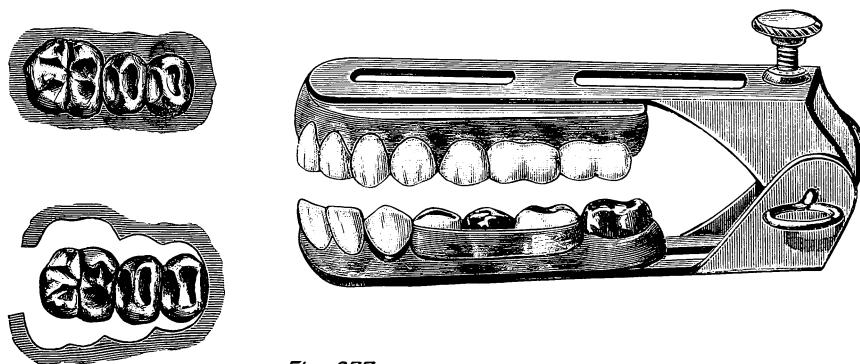


Fig. 277.

If it seems desirable or expedient to employ **Carved Cusps.** such methods, however, the procedure is equally applicable to carving the cusps, or using die-plate cusps, as may be preferred.

In the former instance, the cusps may be carved as usual, and the dies made at one time without separating the individual facings and cusps, after which the cusps may be swaged, trimmed, fitted and soldered, thus completing the dummies all in one piece, when they should be subsequently attached to the abutment pieces.



When it may seem desirable to make a continuous chain of cusp-forms by the die-plate method the Hollingsworth system perhaps offers the most favorable opportunities.

In the use of this method suitable cusp-buttons should be selected, placed in their proper relation on the steel-plate and the die and the counter-die made, after which the gold may be swaged (Fig. 277, A), the surplus trimmed away (Fig. 277, B), and the adjustment then made, as nearly accurate as possible, on the articulator (Fig. 277, C).

The requirements of occlusion, together with the **All-Gold Dummies.** limitations of space may, not infrequently, indicate the employment of all-gold dummies, in preference to those constructed in combination with porcelain facings, as a means of insuring the greatest possible degree of strength or of obtaining absolute indestructibility in the finished piece.

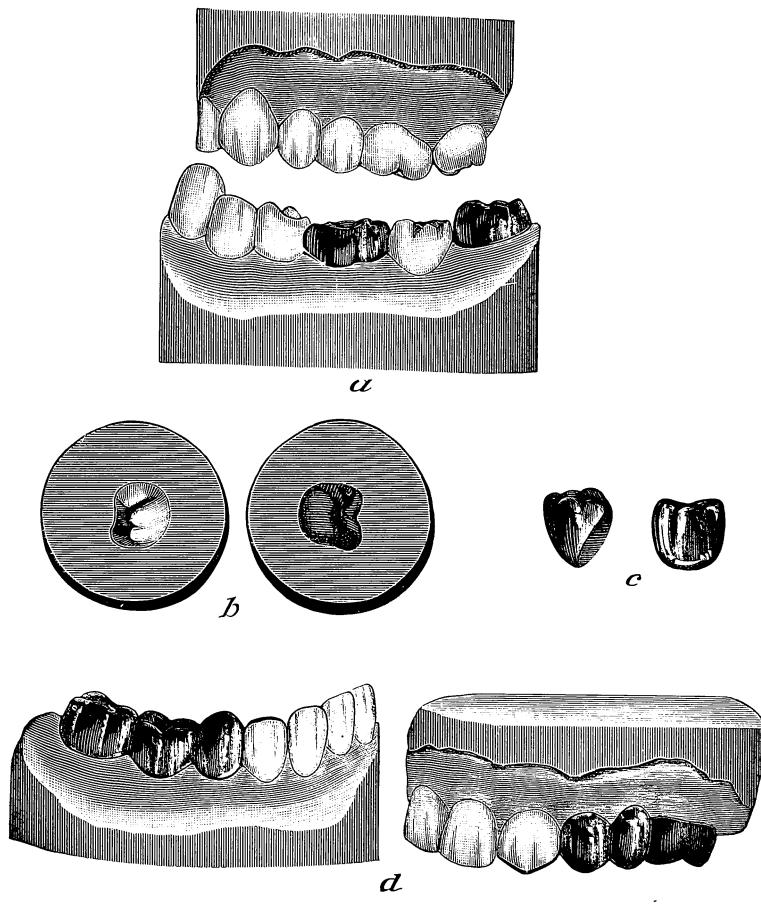
Even though the increased strength obtainable **Indications.** by this method is gained at the expense of the highest esthetic requirements, still in a certain limited class of cases where the occlusion upon the dummy, or dummies, is heavy; where the space is either abnormally large or constricted; where a single dummy is to be placed between two gold crowns, or where they may not be within the range of vision, or too flagrantly conspicuous, such dummies may be used to good advantage. This would practically confine their application, however, to the substitution of second molars in the upper arch, and of first and second molars in the lower arch, where the above-mentioned requirements and conditions seem to demand an absolutely indestructible dummy.

When the abutment pieces have been completed **Construction.** and the case is mounted upon the articulator, at least two general methods of procedure may be followed in the construction of this style of dummy.

First, where a single dummy is desired the entire space between the crowns may be varnished, and then filled with soft plaster, and the articulator closed into proper occlusal relation, after which this plaster may be trimmed and carved to the correct occlusion, and to the desired buccal outline and cervical adaptation. (Fig. 278, A.).

The plaster dummy thus formed may be imbedded in mouldine and a die, and then a counter-die, of the buccal and occlusal surfaces secured. (Fig. 278, B.) Twenty-eight or 30 gauge 22K. gold should now be carefully swaged, trimmed and fitted to position on the models. The occlusal surface of the cusps may then be reinforced with solder, and the desired

convexity of the lingual surface obtained by soldering a backing of the same gauge gold, to the edges, or by filling in, as previously described in connection with porcelain face dummies. (Fig. 278, C.) The typical application of such dummies to practical cases is shown in Fig. 278, D.



Second, the time thus consumed in carving a plaster dummy may be saved by using an ordinary porcelain tooth designed for vulcanite work, grinding it to properly fit the space and occlusion, and then reproducing it in gold of the above gauge and karat, by means of an imprint in mouldine and fusible metal dies, as just described.

ITEMS OF INTEREST

Either method is productive of good results, and where two or even more dummies are to be used in the same case, this procedure should be followed for each individual dummy. While possible, of course, it is scarcely practicable to make them continuous, owing to the combined requirements of occlusion, buccal alignment, cervical adaptation and lingual contour, for all of these can be better observed with greater facility and accuracy in making them separately.

Occlusal Surface Dummies. Dummies involving only the cusps, or occlusal surfaces, may also be found to be a particularly useful style of construction in cases where the requirements and conditions are similar to those just mentioned in connection with "all-gold" dummies, but where contact with the ridge is unnecessary, or is contraindicated for hygienic or other reasons.

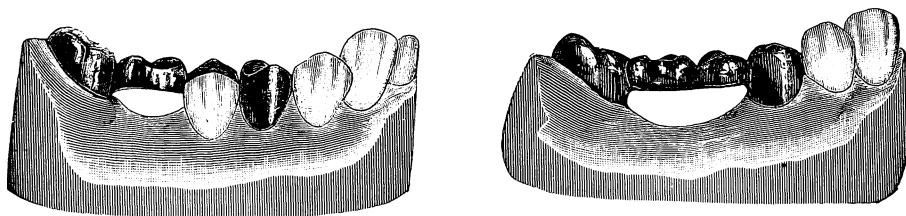


Fig. 279.

Indications. It has been previously emphasized that all dummies should be either in "absolute contact with the ridge," or that "no contact at all should exist," and hence this type of construction is indicated particularly in that class of cases where the excessive absorption contraindicates the abnormal extension of the dummies until contact is afforded; where the restoration of the masticating surface is all that is required, and where the absence of porcelain facings will not be noticed.

Thus it is apparent that the employment of this style of construction is indicated principally in restoring the masticating surfaces of molars, first, where considerable absorption has taken place, and particularly in the lower arch, where facings are unnecessary for cosmetic reasons, or where their absence would not be noticed; and second, where the necessarily more or less unhygienic condition produced by contact with the ridge would be entirely overcome, and the absolute requirements conserved in the most hygienic manner possible.

PROSTHODONTIA

In the construction of such dummies suitable **Construction.** cusp-forms may be made by any of the methods previously advocated. After being swaged and fitted to the occlusion and to the space between the "attachments," they should first be placed on an asbestos or charcoal block and filled flush and even with solder, and the whole then invested and assembled.

As the immediate center of this type of bridge is obviously the weakest part of the structure, where more than one of such dummies are used in a single piece adequate strength must be obtained in the final assemblage, and this can usually be best accomplished by fitting a piece of about 14 gauge round iridio-platinum wire from abutment to abutment, and then freely covering the same from one end to the other with solder. Fig. 279 illustrates the typical application of two forms of such construction.





Highest Orthodontia.

Facial Beauty: 1st.—Dental Antagonism: 2nd.

By JOHN NUTTING FARRAR, M.D., D.D.S., New York City.

Lecture Delivered before the New York Dental College Alumni, January 18, 1905.

I.

Mr. President, Ladies and Members of the Alumni of the New York College of Dentistry:—My subject this evening will be “facial beauty” and “dental antagonism.” In other words, I shall speak upon that which *I* regard should be the highest desideratum in operations for the correction of irregular teeth.

The question is, should mastication of food, without much regard to facial beauty, be the main aim, or should it be, efficient mastication of food with special regard to improvement of facial beauty? For many years my systematic, earnest efforts have by tongue and pen been the pointing out of the steps that have been taken from the early ideas to the present time, the gradual but not regular progress of the art and science of dentistry, especially in the branch for correction of irregularities of natural teeth; showing at the same time a glimpse into its future, for I believe there is yet a great deal to be done before the best results will be accomplished from education along this line.

The question of extraction would naturally come in here for discussion, but as I have already somewhat exhaustively treated this branch of the subject in Chapters LXV., LXVI., LXVII., pp. 681 to 711, in my volume 1st upon “The Irregularities of the Teeth and Their Correction,” I shall only again incidentally refer to the subject in this lecture. The sub-

ject of my lecture, "Facial Beauty Versus Dental Antagonism," is no new phase of my teaching either orally or in print; my present object shall be to reach out into broader and loftier branches upon the subject of correction of irregular teeth, pointing out some of the errors of the retrogressive teachings, which I believe if followed will be the entering wedge to the destruction of our highest and noblest branch of dentistry.

Theory of perfection in the correction of irregularities of the teeth, and theory of perfection in treatment

Hypothesis and Theories. in general medicine, are written upon quite similar lines; both are to serve simply as general guides

in practice. *There is no one best rule* for all cases. The vicissitudes of circumstances, conditions and environments must be considered, or results may be unsatisfactory. This variation may be partly illustrated by the difference between hospital practice and family practice, whether it be in medicine or dentistry. Many things that can be forced in hospital practice cannot be forced in family practice, "*subject*" in one, "*independent personality*" in the other; a treatment in the former case that may be satisfactory to the patient, may not be satisfactory to the patient in the latter. Again the matter of idiosyncrasy, diathesis, mental characteristics, as well as financial and social circumstances, should be taken into consideration. Some heads of families have proper ideas of their own; such persons are not always easily induced to change their views; especially is this true if opposed by illogical presentations.

Preparatory Education. It is often said that clear knowledge of anatomy is important to the physician and the general surgeon in order to enable him to be thoroughly efficient; but

this is no more true of physicians and surgeons than that clear knowledge of anatomy and dental etiology (in which proper antagonism is a factor) is important to the dentist. While the general surgeon needs clear knowledge of the relative position of the muscles, nerves and blood vessels, and their relation to the osseous frame, so does a regulator of teeth need clear knowledge of the relations of the different parts of each jaw and the relation of the jaw-bones to the other bones of the head; nor is this equipment of education sufficient without a clear knowledge of anatomy of the soft tissues, and knowledge, in addition, of physiology, and the changes that may take place from physiological conditions to pathological conditions of the tissues during operations.

The regulator of teeth thus prepared will meet more easily the difficulties that may result from operations. But as important as all this knowledge, together with a knowledge of the development of the teeth, and their proper antagonism may be, it would not be sufficient to constitute a first-class education (for a regulator), without an equally clear

knowledge of the laws of mechanics; in order to take advantage of the above-mentioned knowledge. Furthermore the dentist should understand the rules of proportion, of the different parts of the human face and head, as formulated by recognized great sculptors and painters, and also a knowledge of the differences between the several classes of human faces.

**Types
of
Human Beauty.**

As there are several types of human faces and heads, and as there are as many types of bones of the heads, each head having its own form of jaw-bones, an effort to establish in this enlightened age (regarding knowledge of the evolutionary laws), a geometrically formed typical human jaw, from one selected from many, that will constitute an *Adamic type, for the whole human race*, may seem strange; but it does not seem strange that artists should attempt to classify beautiful human forms. But while all the classes of the most beautiful forms, as a whole, may be counted by less than the digits of two hands, the different classes of the human head would be greater in number, and the number of forms of heads that might be classified would not be equal to the classes of the various shades of beautiful faces belonging to those heads.

For illustration, the heads may be classed, 1st, the round or bullet form; 2d, the square head; 3d, the vertically long but broad head; 4th, the long but thin head; 5th, the oval head; 6th, the egg form, with the smaller end down, and 7th, the egg form with the larger end down (varieties of the oval). Then there is the face with a Greek nose, the Roman nose, the hawkbill nose, the pug nose, the African nose, the ape nose, etc. Then there are the noses of the more beautiful forms of faces; noses the size and form of which harmonize with the other facial features, eyes, mouth, chin and lips. Then there are the faces beautiful in form, but cold and forbidding; and those that are not so beautiful in form, but otherwise charmingly beautiful by intellectual scintillations shown in the expression through an animated face.

**Antagonism
vs.
Facial Outline.**

There are so many phases of my subject I cannot, in the limited time of this evening, go over all, and if I repeat, and apparently recross some tracks of my argument, it will be only to fasten the essential points in your memories. In dentistry much is said of dental antagonism, because much of success depends upon proper knowledge of the subject. In nature we find that dental antagonism is similar, but not at all uniform. But perfection, though rare, is sometimes found, and, rare as it is, the *perfect* should serve as a general guide, but not an absolute guide.

In the winter of 1864-5, Prof. J. H. McQuillin gave a course of "special lectures" upon the subject which he denominated "Harmony of An-

tagonism." It was my good fortune to hear the entire course of these remarkable lectures upon the importance of proper antagonism. Not only was the "interlocking" or "break-joint" association of teeth shown, but the line of actual contact in normal occlusion of the two arches was clearly illustrated. Other persons have since that time treated in print the same subject, but none have presented it more clearly and interestingly than did McQuillin.

While abnormal antagonism of the teeth is often the result of inherited differences between the size of the jaw and the size of the teeth of the parents (immediate and remote), extraction of deciduous teeth at the wrong time, and the wearing away of adult teeth by use, causing them to unduly press and slide upon each other, are also causes of irregularities. Then, again, that class which is denominated protruding teeth (generally the upper anterior teeth) may or may not be the result of dental antagonism.

Protruding upper teeth may be caused by inheritance or by thumb and finger sucking; but my experience teaches me that by far the majority of cases are caused by too long lower anterior teeth and too short side teeth: the latter being largely caused by the sag in the sides of the lower alveolar ridge; altogether causing too much pressure upon the posterior walls of the anterior upper teeth. But some of the major cases may be apparent only, caused by too short lower jaw, and others are indirectly the result of "mouth breathing," caused by nasal obstruction, that tempt the jaws to remain apart most of the time in order to breathe easily, leaving the buccal muscles to act with undue power upon the side teeth narrowing the arch and pushing the anterior teeth forward. Where mouth breathing is continuous, and the size of the teeth and the size of the dental arches do not harmonize, and the teeth are also jumbled, the arches, that thereby become too narrow, may require widening. But if the patient's head is narrow (from side to side) the degree of widening should be carefully considered; especially is this so if the greatest improvement of the face is to be accomplished.

While there is *no one* best rule for regulating all cases, there is generally *one best way* of accomplishing the highest result *in a given case*. The highest aim in this branch of dentistry should be to accomplish not only the greatest possible degree of beauty in facial form, but also an improvement in mental expression, through the form. Movers of teeth there may be many, but moulders of the face, to the highest possible benefit, there are not so many. Those of the latter class may be regarded as the true artists in this kind of mobile surgery.

While efficient antagonism contributes largely to proper mastication, and such mastication contributes to proper digestion, that may lead to



healthy complexion; *proper food* and *regular habits* have quite as much to do with it. While the regulator should give great attention to antagonism, he may fail in public, and in professional estimation, to have the reputation of mastership if he does not also give the greater attention to improvement in facial beauty.

To understand how to bring about *efficient* antagonism of the teeth it is not only important to enable proper correction, but it is also necessary to prevent recurrences of irregularities when once corrected.

Impressions of the Section on Orthodontia at the Fourth International Dental Congress with Further Observations on the Modern View of the Subject.

By DR. FRED'K MCKAY, Colorado Springs, Colo.

Read before the Colorado State Dental Society.

To speak of the Congress in general, it was indeed an inspiring sight to see so many men gathered together for the exchange of ideas and mutual self-help. I know not when one will again be privileged to see together so many of our greatest men, and my sympathy goes to those whose circumstances at the time prevented their being there. To come directly to my subject, is it not a significant fact that there should be a section, presided over by its own officers, presenting a program entire and complete in itself, transacting its own business and given over exclusively to orthodontia?

Too long has this great subject been considered
Status of Orthodontia. as a side issue of mechanical or operative dentistry, as the individual mind saw it, and its discussion and teaching tacked onto discussions and teaching on these branches, and so long as this has been the condition we are all too sadly and shamefully aware of what progress has been made in this science, broad and noble as it is.

It is only since this subject has taken its rightful place and demanded a place of its own that real progress has come about, and the rapidity with which the correct and scientific teaching is spreading is making men open their eyes to the darkness and error at times criminal and shameful that has obtained in the past, and it certainly seems now as though the subject were assuming that place which in the name of science belongs to it.



This most significant state of affairs and altered thinking was one of the most salient points with which I was impressed at the recent meeting.

My knowledge of our profession does not take me back as far as the International Congress held in connection with the Columbian Exposition at Chicago; nor am I any better able to judge of the last preceding Congress at Paris; but I doubt if anything of magnitude even approaching the program presented at the recent Congress was given at either of the other two, and I am quite sure that the real and scientific value of the last far overshadows the preceding two. I am speaking, of course, exclusively of orthodontia. According to the official program the section had a greater number of papers than any other section of the Congress (twenty-one papers). Some, however, were read by title only. The comparative value I am, of course, unable to state.

Orthodontia is not a popular branch of science to the majority of practitioners. The reasons are I presume much more apparent to those older in the profession than to myself, and because of its unpopularity the numbers in attendance could not compare with those of a section like operative dentistry; but when it comes to earnest desire for benefit and a search for the truth, I will concede nothing to any other section of the Congress. This success of the section I attribute, as Dr. Ottolengui does, to the American Society of Orthodontists more than to any other cause. This society is revolutionizing orthodontia, if, indeed, it has not already been revolutionized, and is composed of men with whom the old-time ideas and notions have no place. They want and demand the truth, and nothing else satisfies.

Continuing on the general phases of the sessions, I might say that the discussions on the various papers might have been better; but I noticed that whenever a man presented anything of value it was discussed and concurred in; but when one is obliged to listen to an effort that bears all the earmarks of empiricism and old, played out, shop-worn methods and tiresome detail that has no bearing on the real vital issue, then it seems to me there is nothing to discuss.

From time to time our journals print an article on real orthodontia by a real orthodontist, and these articles and papers are as manna in the wilderness to hungry pilgrims; they fairly bristle with refutations of these old time-honored methods, and doubtful and half-way results. Then why, I ask, the necessity of prolonging and meeting again these same old threshed out discussions?

The time has been when men came together at just such meetings to talk about different appliances and advise each other as to their manu-



facture. Such times, let us be thankful, are about past. Men come together now to discuss diagnosis, etiology, art and occlusion.

**Importance
of
Models.**

Among the striking features of the section was the display of duplicated models, the work of Dr. Pullen, of Buffalo, consisting of various models contributed by the different members of the American Society of Orthodontists.

These were carefully made models showing the various classes of mal-occlusion, cases before and after treatment and photographs of the patients, showing improvements in the facial lines, the treatment being to place the occlusal planes in harmonious relation with their antagonists.

This collection of models will be shipped to Washington to form the nucleus of a permanent collection in the Army Medical Museum. This display did more to demonstrate the true status of orthodontia today than any words I could find.

* * * * *

I consider that an intelligent comprehension of each case requires as an absolute necessity in the hands of the orthodontist a pair, not one, mind you, but a pair of the most accurately and skillfully made models it is in his power to prepare. articulated carefully and trimmed artistically. For what is such a model if it be not "a little block in science," and what but a book in our cabinet telling a story of nature's efforts and perhaps their failure before reaching full maturity? Of what use is a model if it be not accurate and tells not the truth; if its anatomy is not perfect; and what a reflection on one's sense of proportion and beauty if carelessly or slovenly trimmed! A model should be made with the same degree of skill which is exercised in making the finest fillings, bridges or dentures. The crowns of the teeth is not enough. Our work is in the alveolus largely, and hence we must have an accurate impression of it. The discovery, which was one of the greatest in orthodontia, of the fact that nature will build in a sufficient amount of alveolar tissue to meet the requirements of the teeth in their new positions and restore the lack of contour to the face, would never have been known without accurately made models from plaster impressions, from which we can easily determine the growth of bone. Measurements can be taken from such models from which we can determine how much the very apices of the roots have been shifted by nature as a result of establishing normal occlusion of the crowns by means of regulating appliances.

Plaster must be used for the impression. Wax or plastics are worth-



less, and models made from such impressions ought no longer be accepted as evidence, for at best they serve only as a means of conjecture.

* * * * *

Protruding Jaws. We are all familiar with that type of face characterized by the protruding upper teeth, the half-open mouth, inability to close the lips easily, and the weak, receding chin and undeveloped nose. One can tell

these cases across the street anywhere and everywhere. It is the great Class II.

This class by itself could be made the subject of a classic. I approach it with a great deal of respect, and a great deal more of hesitation.

Class II. is divided into two divisions, alike as to the relations of the first molars, the lowers being in distal occlusion with the uppers, but in other respects possessing the most remarkable differences, which in their determining and bringing about, required in their moulding the most tremendous influences at work, and in order to understand what these influences were we must digress into a science, which, before its influence was recognized, was counted a subject bearing the most remote relation to dentistry. I refer to rhinology.

First let us see what the differences are. Please remember that in both divisions the first molars on the lower, and as far as the cuspids, have caught with the uppers just one cusp too far distally; but in division one the upper incisors protrude, with those accompaniments in the facial lines that I pointed out some lines back, together with the lengthening of the lower incisors usually until they touch the hard palate back of the uppers. Cases belonging to this class are remarkably similar, scarcely differing except in the degree of protrusion of the upper incisors.

In Division II. the upper incisors are retruded or pushed in; the nose is strong and nostrils well developed, but, like Division I., the chin is weak.

Of the two divisions the first produces the greatest amount of in-harmony in the facial lines, and just why the chin should be not only weak, but undeveloped in both divisions, is something we do not know, nor do we know how to correct it.

The remarkable difference which the incisors in the two divisions present is due to the difference in the lip functions. The case in which the incisors protrude is due to lack of lip function, the patient being a mouth breather, and the upper lip being elevated and exercising little or no pressure on the labial surfaces of these teeth, allowing them to move outward.



This outward movement has been intensified by the lower lip being constantly forced behind them, in the effort to close the mouth. In the division characterized by retrusion of the incisors, the bunching and flattening of them is due to the influence which the lip has exercised upon them, for such patients are normal breathers, keep their mouth closed the requisite amount of time, and the normal, well developed lip exercises a strong pressure upon them, thus bunching them as they are forced back to meet the lower incisors.

Influence of Adenoids. When a case presents whose models show it to be in Division I., it would be the utmost folly to commence treatment until the rhinologist has either removed the cause or stated that the cause is no longer operative. I do not mean the family physician, but the skilled specialist in rhinology.

The cause which has thrown the nose out of commission and compelled its function to be taken on by the mouth has been an hypertrophy of the pharyngeal bursa, occluding, for all purposes of respiration, the posterior nares. The condition is commonly known as adenoids.

Anatomy shows this tonsil to rest above the soft palate on the rostrum of the sphenoid bone, and when enlarged extends down to a point opposite the first and second cervical vertebræ, and is made up of small lymphoid cells.

This tissue is interesting clinically only after something happens to make it larger.

As a rule, enlargement of this tonsil is accompanied by the same condition in the other tonsils, and the eustachian tube is also caught from above and below, and a catarrhal condition started in it, causing 95 per cent of the deafness.

It is easy to see that breathing is seriously interfered with, if indeed the function is not lost altogether through the nose, and especially at night.

To keep the mouth open for breathing requires a constant muscular effort which may be complied with during the day, perhaps, easily enough, but at night the muscles relax naturally and the mouth closes, and the result is a constant fight for breath.

"The demand for oxygen is ceaseless and immediate, and if not readily supplied through the nose, the mouth is opened to admit this life giving element. Oxygen he must have and at once, and gets it the easiest way he can."

Even in waking hours the subject has no time to meditate on the harmful effects of breathing unwarmed air. The mouth is kept constantly dry and requires frequent movements of swallowing, etc., to



ORTHODONTIA

moisten, each of which movements causes the lower lip to bunch up under those protruding upper incisors like a lump of rubber, the tendency being always to drive them out further, and flatten the lower incisors backward. All restraining influence of the upper lip is lost.

While from the orthodontist's standpoint there are profound changes going on in the facial lines, and in occlusion, yet the interest of the rhinologist in the condition has the pre-eminence. It is a condition that not only affects the child's features, but what is far more serious, the health. This constant struggle all night for air naturally results in a troubled and broken sleep. The child's vitality is seriously drawn upon, and the forces that naturally go toward growth and development are well nigh exhausted. The child is listless and unambitious during the day, and the type of face which often suggests stupidity and undeveloped mentality is a true index.

The mother complains that the child is dull in school, and the teacher frequently bears out the assertion.

Rhinologists tell us that a marvelous waking up and shooting into growth often occurs in the dull and listless child after the operation of adenotomy.

Some authorities like to call children suffering in this way degenerates, particularly those whose occlusion places them in this great class; but to the modern mind in orthodontia this is nothing short of cruelty. The children are victims of circumstances that can be corrected or even prevented if the proper foresight is present, and are not governed by an hereditary taint.

To glance at the two sides of the argument, we will take a few lines from a paper prepared and read by Dr. Patterson, of Colorado Springs, and reprinted from the *New York Medical Journal*, September, 1903. He quotes Talbot, who argues for heredity, as follows:

"The vomer calcifying later in life stimulated by the air inhaled and exhaled, develops the cartilage and moulds it into a center equidistant between the turbinates. Mouth breathing, then, is due to the arrest of the nasal cavities and bones, and excessive development of the turbinates and mucous membrane. This, together with adenoids, is the result of an unstable nervous system."

On the other hand, Collier claims that, "In the first place, in impeded respiration, there is a difference in the pressure on the outside of the young and growing skull, which alters the curve of the upper jaw and the shape of the face and the palate. It is shown that in young animals, the nasal cavities of which have been obstructed for the purpose of scientific observation, a profound alteration takes place in the develop-



ment of the upper jaw, and a marked alteration in the curves of the alveolar arch, and in the position and height of the palate."

He believes that heredity has nothing to do with these changes, as shown by the fact that they are not present in infancy, but take place later on in youth.

"The effect upon the bone is produced by the passage of air through the mouth. This unequal pressure on one side not only pushes up and elevates the hard and soft palate, but approximates the halves of the upper jaw. Professor Zeim, in his experiments upon animals, has shown the truth of this explanation."

It must be admitted, however, that heredity plays some part, for types of faces, and particularly this one, are surely transmitted. We see it often running through a family.

We are in the main, then, to understand that these changes to which I have alluded are the *results* and not the *causes* of mouth breathing, and that mouth breathing occurs just in proportion as normal breathing becomes difficult, and is unconscious on the part of the subject.

The relation which all this bears to orthodontia is, that in the treatment of this class it is positively useless to attempt anything until these growths have been removed. *The rhinologist must be consulted first.*

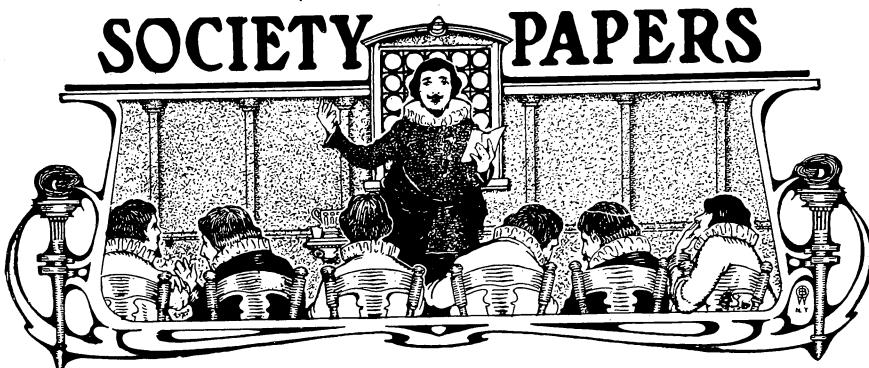
Cryer reports a case in which a dentist worked a year to "straighten the teeth" of a child aged eight years, making almost no progress; after an adenotomy, however, the result was easily accomplished.

* * * * *

In this great profession of ours, rapidly dividing into specialized lines of work, I can see no field which is as yet so positively unoccupied as that of orthodontia.

In conclusion, if orthodontia is a science, then it must have fundamental laws and truths, and all discussions on the subject should be to bring out these laws and find what the truths consist in. It must be for the love of the subject and not to advertise this or that one's ingenuity.

To me the St. Louis meeting was eminently for and because of orthodontia, because of itself and what it demands, and the occasion was graced by some of those most eminent in its practice and most earnest in their desire to lift it out of empiricism and guesswork onto the plane of art and accuracy, and place it among the most beneficent of modern sciences.



The Use of Non-Cohesive Gold.

By DR. JOHN I. HART, New York, N. Y.

Read before the Central Dental Association of Northern New Jersey, January, 1905

In accepting the invitation of the Chairman of your Executive Committee I outlined to him the subject I am about to present for your consideration, not realizing that a similar topic would be discussed at so recent a dental meeting.

The question of cavity preparation has reached a point of definite rules; the extremists have harmonized their differences, and the methods of advanced operators, even though they hail from different sections of this broad land, differ but little. It is not so with the manner of filling the cavity, and it is to this that I wish especially to draw your attention.

The properties of gold have been well understood for many years; but few have failed to take advantage of these properties. The placement of non-cohesive gold by the wedge principle is as old as dentistry, and no man who has practiced for many years has failed to observe how fillings of this class have preserved teeth. It is difficult to build out with this material to any considerable extent, and consequently many who desire to restore lost contour have resorted to the use of cohesive gold. I consider that a combination of the two forms of gold facilitates our work and saves fatigue to the patient and strain to the operator. I do not question that the results obtained by those who employ cohesive foil are as satisfactory as I can obtain with the combination material, but I do contend that the effort of the former is much more laborious, and I am insistent that those who work entirely with cylinders cannot obtain as satisfactory results with cohesive cylinders at the gingival seat as can be obtained with non-cohesive cylinders at that situation.



All pure gold is cohesive unless gases have accumulated on the surface, which render it greasy. If gases are allowed to so accumulate the gold partially loses its cohesive property, and, unless annealed, works practically as does non-cohesive foil, but on annealing those gases are driven off, and it becomes fully cohesive.

That is not true of non-cohesive gold: there is only one manufacturer today who prepares absolutely non-cohesive gold, and by that I mean gold that can be annealed to cherry redness, and on being so annealed does not regain cohesive properties.

It is assumed that the method of preparing this foil is that the beaten foil is placed in a furnace between sheets of paper and allowed to remain in the muffle until the paper is incinerated. I say it is supposed that is the process, because it is more or less a secret process; others claim that there is a small percentage of lead with the gold, but in our working with non-cohesive foil we obtain the full advantage of the softness of the pure foil, and non-cohesive foil has been misnamed soft foil, because when worked in cavities in the deeper portions of these cavities it does not stick sheet by sheet and become stiff, and consequently it is called soft foil; but practically at the inception it is no softer than cohesive foil, and in working in deeper portions of the cavity it does not become so stiff.

Tin and gold in combination work precisely as does non-cohesive foil.

Perhaps I can bring to your minds very closely the difference in the working qualities of the two classes of cylinders, if we consider for a moment the difference between stiff electric wire and flexible electric wire. You all know that flexible electric wire is made up of a series of strands of wire interwoven into a small cable. Take, for instance, such a cable of the calibre of my finger, and then take a solid wire of the same calibre, and the difference between the flexibility of the two wires is very marked. That illustrates the difference between cohesive cylinders and non-cohesive cylinders. When a cohesive cylinder is pressed down into the deeper portion of a cavity, each layer of foil making up the cylinder will stick or cohere together, and consequently the series of the sheets which go to make up that cylinder under pressure finally become ten times as thick as the original sheet and as stiff as though it had originally been foil of number thirty if the foil making up the cylinder is composed of number three foil; whereas, if that cylinder is made up of non-cohesive foil it can be pressed down into the corner of the cavity and one sheet of the foil does not stick to the other sheet of the foil; and if it is moved slightly in bringing it down into position, it does not become stiff under the pressure.

**Advantages
at the
Gingival Seat.**

My reasoning that the use of non-cohesive cylinders at the gingival seat is more advantageous than the placement of cohesive cylinders at that point, is worked out from this basis: That if the model I have before you is correct, then the retention points made, which are very slight at the angle created by the buccal and gingival walls and by the lingual and gingival walls, cannot be started with cohesive cylinders which may not rock before the filling is completed; but if we wedge in with non-cohesive cylinders we can still prepare cavities on this plan without encroaching on the lateral walls of the teeth and weakening them, or without encroaching on the pulpal wall with damage to the pulp from thermal shock, but by combining with the non-cohesive cylinders, cohesive cylinders, by interdigitation we obtain as firm an anchorage as we would if we had started fresh with the cohesive cylinders in deeper cavities.

With your permission, Mr. Chairman, I will outline the method which I think the best for working with cohesive and non-cohesive gold.

**Combination of
Cohesive and
Non-Cohesive Gold.** A series of cylinders of suitable length are selected, and they are placed on the gingival seat of the cavity with only the pressure that can be brought to bear by foil pliers. Prior to their condensation the series of cohesive cylinders are pressed into place with the same pliers, and then condensation is completed with hand plunger points. After these have been pressed home with the hand plunger points the condensation is completed with a mallet. Then the margins are burnished with a flat smooth burnisher and all the margins are protected by burnishing the excess over the margin. This portion of the filling is now finished with strips. At that stage of the filling, the matrix is put in position and the filling completed with cohesive gold cylinders. The advantage of burnishing and finishing off at the gingival border prior to the completion of the filling is that this is the most difficult portion to finish after the filling is completed. The knuckle or contour of many a filling has been destroyed in the efforts to finish perfectly the gingival margin, when we have waited until the final completion of the filling to finish at that point.

On two occasions recently, in listening to talks on methods of operative procedure, I have heard outlined the difficulties of filling cavities entirely with gold in bicuspids and molars, and the method has been described whereby the operator has completed one-third of the operation of the filling with amalgam and finally completed it with gold; but if that more or less "sloppy" method in the hands of some operators is necessary, then some method is necessary which shall make possible the entire



filling with gold of cavities of this description. While I do not offer this as an original method, I suggest it to you because I hope and think it will facilitate your work, and I shall be very glad, if I have not made the subject as clear as I have tried to, if you will question me.

I wish, Mr. President, to offer a tribute to Dr. Wilbur M. Dailey, of New York, who I think has done more in the line of the use of non-cohesive gold in cavities than any operator in the present generation, and I have gained so much information from him that I feel it would be unjust to consider this subject without giving public recognition of that fact. (Applause.)

Before closing, Mr. President, I want to say one further word; I brought this prepared cavity (referring to model) because I consider that is a cavity which should be filled only and entirely, from A to the end of the alphabet, with gold, from start to finish, and I think that a combination and use at the right time of the proper filling material is what gives us our greatest ease and greatest success in the practice of operative dentistry.

The Relation of Dentistry to Medicine.

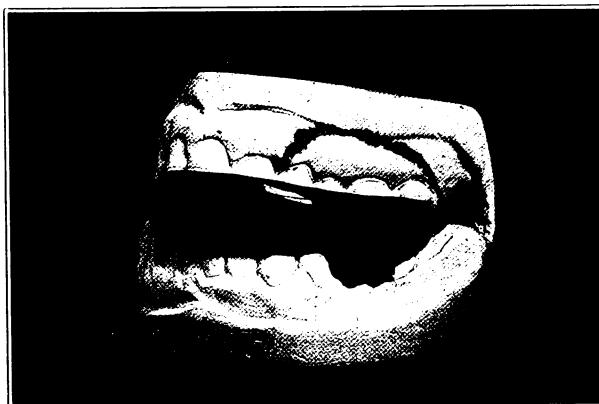
By ALBERT L. MIDDLEY, D.M.D., Asst. Dental Surgeon to Rhode Island and St. Joseph's Hospitals, Providence, R. I.

(Read before Rhode Island Medical Society, November 3, 1904.)

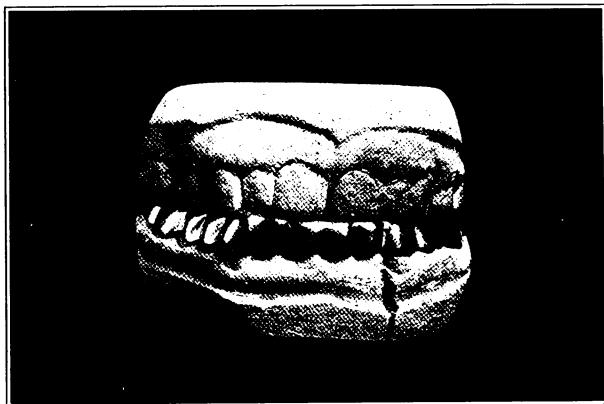
At the present time the science of dentistry covers a much broader field than formerly, and with the rapid growth of our knowledge of oral pathology and its relation to morbid conditions elsewhere in the system, dentistry and medicine are becoming more and more strongly united. To-day the practitioner of medicine recognizes, among other things, that a clean condition of the mouths of his patients is absolutely essential for their welfare; that there is a remarkable immunity from the infectious diseases of childhood in children with clean, healthy mouths; that the dentist with a knowledge of syphilis, tuberculosis and cancer is in a position to prevent the spread of infectious disease where an early recognition and diagnosis is all important; that 75 per cent. of antral affections are of dental origin; that 90 per cent. of facial neuralgias are the result of improperly inserted metallic fillings, impacted third molars or roots covered by the gum; that the ideal treatment of fracture of the maxillary bones are by means of the interdental vulcanite or aluminum splint; and that the

lancing of dento-alveolar abscesses or the performing of necrosis operations externally on the face in the majority of cases is entirely unnecessary.

To the dentist, the most important of all oral lesions are those of syphilis; that we may render invaluable service to the patient afflicted, pro-



tect our innocent patients, guard against infection ourselves and be of aid to the general practitioner of medicine in maintaining, as far as possible,



a healthy condition of the mucous membrane of the oral cavity, for the removal of tartar and roots and a thorough cleansing of the mouth is demanded in the treatment of the buccal lesions so prone to occur in the secondary stage of this disease. Another condition wherein we are more closely linked is that of cancer, when a growth is seated within our field.



By an early recognition and diagnosis on the part of the dentist, the physician has a better chance to prolong the patient's life, if he is not able to effect a cure. So also do tubercular conditions and pathological expressions of the exanthemata—varicella, measles, scarlet fever, etc., show themselves in the mouth, and if by a diagnosis of the disease in its incipiency we render aid to the afflicted, we more closely ally the two sciences.

Other forms of stomatitis—mercurial, gangrenous, herpetica ulcerosa and thrush—are associated in almost every instance with an unclean mouth, and cleansing of the teeth mechanically is of more importance in the treatment than the local application of drugs.

Treatment of Fractured Jaws. The treatment of fractured jaws lies entirely within the province of the dental surgeon, and the treatment by wiring has had its day, except in rare instances. In forty-eight cases that have come under my observation, it was necessary to wire the fragments in only two. One case was a child three years of age, and on account of his age and an abscess with extensive laceration of the tissues, it was impossible for me to keep the patient's jaws closed and the parts in apposition. With the interdental vulcanite and aluminum splints, the parts are easily held in firm apposition; we are insured of perfect symmetry of the face and a perfect occlusion of the teeth, which I do not think can be equalled when we resort to wiring. Another objection to this older method is the incision on the face and the resulting disfigurement.

Facial Neuralgia. The vast majority of facial neuralgias are caused directly from improperly inserted metallic fillings in too close proximity to the pulp, impacted molar teeth, or roots covered by the gum. In many cases constant pain referred to the occipital or auditory region has been relieved by the removal of these fillings or roots.

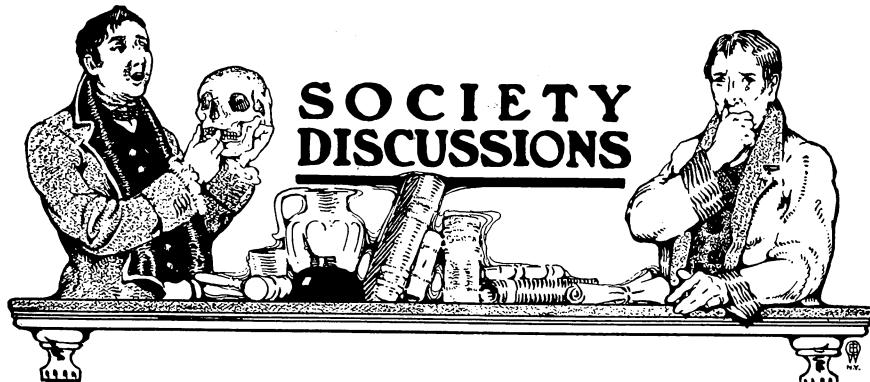
Diseased Antra. In the treatment of antral and other conditions presenting obscure pain in the cheek region under the eye and outside the nose, we are aided in a great measure by the specialist in medicine, as is he also by us. While suppurative conditions of the antrum associated with inflammatory action of the cells of the accessory nasal sinuses, nasal polyp or other nasal affections are beyond the territory of the dental surgeon, nevertheless, by a thorough examination of the teeth, we may be of service to the rhinologist if for nothing more than to make a diagnosis by excluding dental causes, which I have said are the cause of 75 per cent. of antral cases.

Then, too, it is the opinion of most of the medical men that the most favorable point to make an entrance to effect drainage is through the

second molar, since it is the lowest part of the antrum, and therefore the center for pus to accumulate. The dental vulcanite plug, with a gold band attached to an adjacent tooth, has advantages over a canular, in that it restores the antrum to more nearly its physiological condition, that of a closed cavity. We all know the dry, irritating effect currents of air have on a mucous surface, and with this irritation on the delicate membrane lining the antrum which we must have when using the canular, a cure, to say the least, is surely retarded. Then, too, with the dental plug, the patient does not swallow the accumulating pus, and we can more easily judge the amount of pus formation.

If we resorted less frequently to applications of heat and the use of the lance in dento-alveolar abscesses that show a tendency to point upon the cheek, the disfigurement resulting from such treatment would be less commonly met with. When we have pain from any dental cause, the first agent generally used is heat, which in this class of cases is entirely wrong from a therapeutic point of view, for it softens the tissues and makes a fertile soil for the burrowing pus to find vent upon the face, and as an analgesic it has not the value of cold applications. Our method of treating this condition is to extract the offending tooth immediately, and then lance the tissues inside the mouth. If the abscess shows signs of pointing on the face, apply three or four coats of collodion to strengthen the tissue, and use the ice bag. It is surprising how few of these far advanced abscesses terminate with a fistulous opening on the face with this mode of treatment.

Pyorrhea, and the bearing it has upon uræmic disturbances; the saliva as an index of faulty metabolism, and mouth bacteria and their relation to pathological systemic conditions are subjects which confront us today, and with a more profound knowledge of them, the physician and dentist will be brought into closer relationship.



New Jersey State Dental Society.

36th Annual Meeting.—Report of Clinics.

A very large number of clinics were held before this Association. The following is a report of such of these as can be adequately described in words:

The Whiteside crown is a detached-pin crown, differing from others of the same sort in that the **Youngstown, Ohio.** hole, or mortise, which engages the dowel-pin, is placed near the labial face of the crown, thus equalizing its strength, and eliminating the "weak point" manifested in all other porcelain crowns by the near approach of the dowel-pin to the lingual side. The dowel-pin, in this case, is fashioned after the shape of a bayonet, so as to engage both root and crown perfectly.

Of the various modes of mounting this crown, the one particularly recommended by Dr. Whiteside is with the employment of amalgam for anchoring the dowel-pin in the root, and is accomplished in the following manner: After the root has been properly faced and reamed for the reception of the crown, take a small under-cut bur and cut a groove entirely around the circumference of the canal about one-sixteenth of an inch above the mouth. Insert a small piece of gutta-percha at the apex; warm the pin and insert the point in the gutta-percha, then pack amalgam around it until the groove inside the root is perfectly filled and the end is entirely covered. The crown is then adjusted and the excess amalgam is removed. The crown is next taken off and the mortise filled with cement and mounted on the projecting pin.

The simplicity of the application of the Whiteside crown, after the manner of a "Richmond," is a strong point in favor of this crown, as also its applicability to bridgework.

The ordinary methods of mounting this crown with cement or gutta-percha differ in no essential respects from other crowns. The only claim



SOCIETY DISCUSSIONS

set forth by Dr. Whiteside is in the superior strength and efficiency offered by the peculiar placement of the mortise and the shape of the dowel-pin.

A method for obtaining accurate impressions of **Dr. Edwin C. Harlan**, faces of roots of teeth and making dies to make **Jersey City, N. J.** stamped caps for Richmond crowns. After the root is properly prepared and trimmed, a seamless copper tube is fitted tightly on root just as though a band were being fitted. This having been trimmed to gum line and forced up under gum as far as finished cap is to go, mix small quantity of plaster, and as it is just about to set pack into tube. Let this become perfectly hard before removing. Dry well in Bunsen flame. Make a rubber funnel by cutting both ends from the rubber bulb of an ordinary medicine dropper and place this over tube with impression in, and the mould is thereby completed. Cast a fusible metal die in this mould. You will now have a die on which you can make a perfect fitting seamless stamped cap. Since making the box of tubes I am using in this clinic, I have learned that tubes of this kind are supplied in convenient assortment in boxes at a very moderate cost by the Blue Island Specialty Co., Blue Island, Ill.

The round porcelain inlay operation originated by **Dr. Wm. Y. Allen**, **Boston, Mass.** by Dr. William Storer Howe, of Philadelphia, in 1867, improved by Mr. William Dall, of Glasgow, Scotland; Dr. B. C. Russell, of Keene, N. H., and others, forms the basis of the "Automatic Round Inlay System" devised by Dr. William Y. Allen, of Boston, Mass.

The essential feature of this system, and the only original idea claimed by Dr. Allen in connection with round inlay operations, consists of a simple instrument called a round inlay-grinder, the action of which is automatic when rotated with the dental engine. By means of this instrument Dr. Allen quickly reduces a porcelain rod to an accurate taper, from which perfect fitting inlays may be cut with a diamond disk for circular cavities of any diameter upon all accessible surfaces in either the anterior or posterior teeth, thereby entirely eliminating the difficulties of previous methods of preparing round porcelain inlays. The accessories for facilitating this operation are assembled in an outfit comprising a set of twenty-one graduated inlay burs, six round inlay-grinders, porcelain rods in twelve shades, carborundum mixture, diamond disk and ivory inlay gauge.

Dr. Samuel Doskow. Micropolaroscopic Examination of Saliva and Urine, also showing some of Dr. E. C. Kirk's slides.

The determination of the different diathetic conditions and their degree of advancement is most advantageously studied by analyzing the various secretions and excretions of the body. The saliva



furnishes a fruitful medium for the proper execution of this work. It is more allied to the blood, by virtue of its not being modified by the glands; and by the fact that it passes the nutritional cycle many times, it gathers up from the blood the various end products of metabolism in the form of crystallizable salts. These salts, although present in the urine, do not show their relative importance to the same extent as when found in the saliva.

In the optical examination of either saliva or urine, it is necessary that the light be converted from the normal ray to the polarized ray, and with the proper adjustment of the prisms the effect will be that the entire field will be dark, while the light will be transmitted by the crystals in question. This can be accomplished only by means of the micropolariscope. The slides shown at this clinic are from several cases that were in the process of analysis at the laboratory of Dr. E. C. Kirk at the University of Pennsylvania.

In working up this system, I have endeavored to overcome the uncertainty of fit at the cervical margin of other seamless crown systems with which I am familiar, the object being to make the mechanical process so complete that any boy in the laboratory could produce a perfect fitting crown.

Prepare root as in all methods. Fit snugly to it a copper cylinder, No. 32 gauge (these cylinders may be purchased of the Blue Island Specialty Co., Blue Island, Ill., called their No. 36 bands). Trim the cervical margin as you would your finished crown, and scribe upon it the cervical line with a sharp instrument. Allow the patient to close upon the band, trimming to length of the bite. Take a composition bite; pour your model on a crown articulator (preferably one manufactured by the Buffalo Dental Co., which has a lateral motion). Upon removing your composition, you will have an accurate length of bite with your band in position. Fill your cylinder with plaster, allowing it to overlap the sides where you need contour. Do not carry it to the cervical margin. Close the bite while it is soft, and carve your grinding surface to the articulation. Remove your model from the articulator and set it up in mouldine, using any female crown system you may choose (I prefer the Dodez method), covering your model with the collar of this system, using paper strips of No. 31 gauge in the grooves. Pour with Turner metal, being sure to fill collar; then separate and remove model. Replace metal parts in the collar, introducing copper strips No. 30 gauge where the paper was used. Select gold thimble No. 30 gauge as large as will go into the die. Fill cap with vulcanite rubber or with any swaging material you may desire. Place on top of this a plug made of



SOCIETY DISCUSSIONS

vulcanite rubber covered with cloth, put in press and swage. If the contour is large remove and anneal three or four times. From your original model take the gum line with a pair of set calipers and scribe the cervical margin, and you will have a crown with cylindrical collar that will accurately fit the root and articulation.

This is not a rapid system, but when difficult contours and articulations appear, it will give an accurate result.

Dr. F. L. Fossum, New York City, N. Y.,

**Dr. F. L. Fossum,
New York City.** demonstrated the use of the saddleback and countersunk teeth in bridgework, stationary or removable. Mode of procedure: When a model is obtained with the attachments of the bridge in position, grind and occlude the teeth, and allow room between the alveolus and teeth for the gold, which must be thick enough for support in mastication; now remove the teeth and cut a gold disk a little more than a sixteenth of an inch larger than the under surface of the tooth; anneal and punch holes for the pins, slip into position and burnish to fit; cut four slits in the rim extending outside of the tooth and bend the rim up over the tooth; remove, and solder the four joints. This is best done by investing with the lower surface up and the outer part of the rim exposed. The cap can at this time be strengthened by flowing solder over it. With countersunk teeth the gold will have to be split in the center as well, so as to burnish it into the hollow under the tooth; before removing, put a little wax into the hollow in the gold so as to keep the plaster from running through. When soldered the caps will fit the under surface of the tooth perfectly, provided the gold was burnished well into place.

The teeth with caps are now put on the model and waxed into place. Attach the wax to the gold only, as the teeth are to be taken out before the bridge is invested and soldered. When this is done, place strips of clasp metal under the caps and flow the solder thick, so as to make a smooth surface. This will make the bridge strong enough to withstand the stress of mastication.

If the holes for the pins of the saddleback tooth are covered with the solder, cut them out with a bur from the inside, where they will be half way through. When the bridge is finished and polished, set the teeth into it with gutta-percha or cement. Gutta-percha is preferable, as the teeth can be easily removed and replaced if necessary.

Jenkins Body in Electric Furnace. I use

**Dr. H. B. Hickman,
Philadelphia, Pa.** the Jenkins body in an electric furnace because I can work quicker and cleaner than I can with gas,

although I think the gas furnace is the proper manner to bake Jenkins body. My matrix is taken by burnishing No. 30



gold foil into the cavity by means of spunk and ball burnishers, the gold being held in place by a strip of wet linen tape or rubber dam. The gold is burnished harder at the margins than anywhere else in order that the gold will be thinner there, and the finished inlay will fit closer at the margins than anywhere else. I try to have a flat bottom to the cavity or a step in it somewhere, in order that I may have a guide in setting the inlay, and have a more permanent filling than if you have a spoon-shaped cavity. I have found that the majority of inlays that come out are from the spoon-shaped cavity. After removing the gold from the porcelain, carefully cover the margins and glazed portion with wax and apply a drop of hydrofluoric acid for a minute. Wash off acid with cold water, which makes the wax more brittle and more easily removed; wash inlay with alcohol, which removes small particles of wax and cleanses the powder from the back of inlay. Before setting inlay, wet the etched surface of the porcelain with the acid of the cement, and you will find that the soft cement in the cavity will take better hold of the porcelain and be more difficult to remove after it hardens under pressure, kept dry for a half hour.

Dr. Head inserted a porcelain filling in the pos-

Dr. Joseph Head. terior aspect of a first superior bicuspid. He explained and demonstrated how the shadow could be overcome by a judicious lightening of the porcelain body used in making the filling. He also showed models of his method for making pin crowns.

To Dr. Hewitt, of London, is given the credit of

Dr. R. McDougall, safely extending nitrous oxide narcosis by the addition of oxygen. This combination enables us to pro-

long anaesthesia without many of the asphyxial conditions that presented themselves under the use of nitrous oxide alone. The modification of stertor and irregular breathing and twitching of the muscles allows the use of instruments in the oral cavity painlessly, and makes possible some delicate operations on sensitive parts with no disagreeable after effects. The many advantages of this discovery must be apparent to us all, and by prolonged anaesthesia arsenic will be put aside for a safer and quicker method for the destruction and removal of troublesome pulps, and sensitive dentine will lose for the profession many of its terrors. A great step is indeed taken toward painless dentistry.

Exhibited and explained his bracket and joint

Dr. Wm. H. Mitchell, for removable bridgework. This joint is so de-
Bayonne, N. J. signed that while the bridge is readily removable by a dentist, should it be necessary, it possesses equal strength and rigidity to fixed or permanent bridges. The bracket fix-



SOCIETY DISCUSSIONS

ture which is soldered to the crown forming the abutment is capable of a number of variations to suit different locations or requirements, and is constructed as follows: Two square lugs are soldered to a backing of proper size to fit the height of the crown, leaving a space between of a width equal to the thickness of the lugs. These lugs are then drilled out with a drill slightly longer than the screw wire furnished for the How retaining post system, after which it is reamed out with the cone bur, finished with the Bryant bridge repair outfit; the lug at the gum margin toward the center space and the coronal lug also toward the middle space. This bur is of the proper cone to fit the Bryant conical gold nuts. The bridge itself is then built up by the favorite method of the operator, care being taken to allow the bar or a lug to properly engage the space between the lugs on the crown abutments. The lug on the bridge is then drilled in alignment with the holes in the lugs on the crown, after which it is slightly coned with the bur. The cone nut is on the side toward the gum and held into lug while the little platinum screw is inserted into it; the coronal nut is then placed on the screw wire and screwed firmly to place; the two nuts are then drawn tightly together and into the central lug slightly, thus strengthening the entire joint. The method described can be varied; for instance, have only the lug toward the gum in the abutment, leaving a recess under the cusp of a bicuspid and drilling out and coning the cusp, when it may be firmly screwed in place. Where it is desirable to attach to a cuspid a resting place for the lug on the bridge can be provided and tapped out to fit thread of screw with the "How tap," after which with the slightest amount of solder it can be made a fixture of the cuspid abutment. The bridge lug is placed over the screw and the nut drawn firmly to place.

In the crown for anterior teeth shown by Dr. Mitchell the facing, the backing and pin are so arranged that they interlock and wedge tightly together without any lute, though chloro percha is advised. The pin is broad and flat, and is fitted to receive a wedge backing on the facing similar to the old Mason facing, after which a backing is fitted to the pin covering pin backing, and on this the crown is contoured with solder; it is assembled and inserted as the ordinary Richmond. The advantage is that in case of the facing being broken the same can be readily replaced, it being unnecessary to distort the pin. The back portion of the crown is warmed and removed, the new facing luted with chloro percha, after which the posterior portion of the crown is also replaced. The facing is thus not dependent on the lute for retention, but the back part of the crown binds the two prongs of the pins together with a vise-like grip, while the broad pin prevents any rotation of the crown.



The Central Dental Association of Northern New Jersey.

January 16, 1905.

President Stockton called the meeting to order and introduced Dr. John I. Hart, of New York city, who read a paper entitled, "The Use of Non-Cohesive Gold."

Discussion of Dr. Hart's Paper.

Dr. Dunning. I have not used cohesive gold to any great extent. I have been in practice for nearly twenty years, and dare say I have put in many hundreds of fillings, and have always used semi-cohesive gold. Sometimes I get hold of a bottle of gold that is non-cohesive, but merely because I cannot get the semi-cohesive, and I use that to great advantage. I like Dr. Hart's method of starting a filling with non-cohesive gold at the gingival margin, and I shall start tomorrow doing so if I have such a case.

Dr. R. M. Sanger. I should like to be able to discuss this paper intelligently, and I should like to be able to "cuss" it intelligently, but I fear that I have no chance of the latter, for I cannot find any way of differing with Dr. Hart, for his method is one which appeals to me very strongly.

The method of cavity operation, of course, is familiar to us all and is not included in the discussion, and I can readily understand the wisdom of putting in material at the bottom of the cavity which is easily burnished into place. It is a thought which is to me very valuable. The difficulty of finishing a filling at that line is overcome immensely, and I feel sure that if we all try it we will all save a few hours of our lives, and make life a little easier.

Dr. S. C. S. Watkins. I have always admired Dr. Hart and enjoyed hearing him on almost any subject in dentistry, and I am glad to see that he is traveling along the right road. The method expounded by him this evening is one that I have been practising for over twenty years, and I am very glad that Dr. Hart has taken it up. I am glad that he has come here to tell us about it in so much a better way than it would have been possible for me to do it.

A good many years ago a clinic was held before the First District Dental Society at the old Ninth Street Depot by a gentleman from Brooklyn, who filled a tooth just in the way Dr. Hart has described. I do not remember about the preparation of the cavity, but the way of putting in the gold and burnishing it over the cervical wall, polishing when the filling was about one-quarter or one-third finished, was just as Dr.



SOCIETY DISCUSSIONS

Hart has described it, and that was where I became familiar with the idea, and I have been practising that method ever since.

Unfortunately, I only heard part of Dr. Hart's paper. I learned to fill with soft gold, and I suppose the success I had after we commenced the use of cohesive gold made me feel that I never wanted to go back to soft gold, and I think I feel a good deal that way now. I feel that I can make my cavities reasonably tight with cohesive gold.

Another point which I did catch in Dr. Hart's remarks was the filling of a tooth at the approximal surface, and a few times in my life I have done just what he condemns, and have done it to my utmost satisfaction, and never had a tooth which I filled in that way re-decay. I have filled the cervical margin with amalgam and packed the gold in the amalgam while it was yet soft. I got the idea from Dr. Gillette, and I have some of his patients in my hands now whose teeth he filled fifteen or twenty years ago, and they are doing good service, where other fillings do not give as good service.

I do not like mussy work any better than anybody else, but there is a place where I think you are warranted in doing that, and I should much rather do it, as it seems to me, than to poke a lot of gold into a mass of soft oxyphosphate and depend upon adhesion in that way. It seems to me, speaking of mussy work, that is "sloppy work."

Dr. Bradfield. I would like to ask Dr. Hart if he burnishes the entire filling at the start.

Dr. Hart. Do you mean the soft portion of the filling that is to be added to further, or do you mean along the cervical walls.

Dr. Bradfield. Along the cervical walls.

Dr. Hart. I burnish the entire cervical wall, but not that portion of the filling which I intend to add more gold to.

A Member. Would not that same process be applicable to the other methods spoken of?

Dr. Hart. It is. That is only a method of supporting the filling. You can do that whether you use cohesive or non-cohesive filling.

Dr. Meeker. While Dr. Hart was reading his paper I was thinking of the different methods the younger members of the profession have been instructed in as they have gone along their practice. When I first commenced, Dr. Lownesberry, of New York, was a great soft gold worker. Nearly all the fillings were then made with soft gold, but there was never any of the beau-



tiful contouring done that we see now, or did see in the days of Marshall, Webb or Varney. At that time the cavities filled by Dr. Lownesberry were circular, or approximal cavities in the central incisor and bicuspid teeth, and they were simply filled. I have no doubt that the teeth were preserved, for I have seen some as long as twenty years afterwards with the gold fillings still doing good work, but there were not the æsthetic qualities about the fillings that we see now. At that time, Dr. Dickinson, with his long curls, was the presiding genius in Ninth Street, and Dr. Dickinson, Dr. Abbey, Dr. Webb, Dr. Varney and Dr. Lattimer were the men who were advocating the use of cohesive foil with soft foil. They made most beautiful fillings, as they were considered at that time, but now, whether it is that our artistic taste has been more fully cultivated, or why it is, we do not like to see in the central incisor a large mass of gold; we think it detracts from the appearance, and we seek to use an inlay in such a cavity. But I was led away by the fad of the time to use cohesive foil, and I thought it was the proper thing, and that it made beautiful, artistic fillings and brought out the contour of the teeth. I have used cohesive gold from that day to this, but in cavities in bicuspid teeth at the gingival border, I always commence fillings with soft foil, and I think that is the proper method.

Dr. Hart, in his beautiful address on the use of soft foil, echoed my sentiments from start to finish entirely; but if you remember, he confined the use of soft gold to one little layer at the gingival border. In all of my practice I have been a cohesive gold worker with that one little exception (referring to model). There are times and places for all things, they say, and that is the time and the place in this particular; in those obscure corners in out of the way places where cohesive gold in its stubbornness is difficult to drive and absolutely impossible to be coaxed, soft foil will fill that point with greater precision than the other; but its use ends there with perhaps one exception, in those round cavities that we find in the molars and bicuspids. In those places the only advantage of using soft foil is the saving of time.

There is not anything that a soft foil worker can accomplish which an expert worker in cohesive gold cannot accomplish, and there are many things that a cohesive foil worker can do that a soft foil worker cannot do with this one exception, the saving of time, and that is not a matter of sufficient importance as compared with the use and value of the tooth. I know of no operation that can be performed by the use of soft foil that cannot be done as well or better, given sufficient time, with cohesive foil.

The practice of dentistry today is confined almost entirely to the



SOCIETY DISCUSSIONS

use of cohesive foil. If a ballot were taken of those present, as to what they used, I think I am well within the mark when I say that it would be found that ninety-five per cent of them use cohesive foil in the major part of their work. In the city of New York, with its thousands of dentists, the men who are not devoted to the use of soft foil are very few, and you could almost count those of prominence on the fingers. There are more men who use it, perhaps, who are not known, but the use of cohesive foil is almost universal. It has this advantage, that if used with intelligence and skill, it makes a homogeneous tough mass which, if applied to the borders and margin as it should be, is indestructible and will last as long as time itself.

We hear about the old soft foil fillings put in **Soft Gold.**

forty or fifty years ago that you can put the point of an excavator in; but if any of you gentlemen have ever seen such fillings you will recall that they are almost all in places where almost anything would have saved the tooth, and the fact that the tooth was saved is no argument in favor of the tooth saving quality of the material, and in the nature of things it could not have been. Gold has no properties that will save a tooth, but its advantages arise from its softness and adaptability to the margins or surface of the cavity.

Dr. Hart has not done what I was afraid he was going to do, and that was to frighten young men or novices with the bugaboo of cohesive gold, and induce them to take up the use of soft gold as a practice, and undertake to save the teeth of the present day and generation by that means alone. There are men who do that. The gentlemen of the Hall School, so called; the devotees of old Dr. Hall, have a cult. They are practically a school by themselves in New York today, and have been for many years, and they have a very intelligent and wealthy clientèle, among which are the best and ablest people in the community. So, by the way, have the Christian Scientists, and yet we do not all indorse them.

Another point that I would like to call attention to that Dr. Hart referred to is the "sloppy" method,

as he expressed it, of filling the upper portion of a cavity with alloy or amalgam and finishing with gold. I do not think he was entirely justified in the use of the term "sloppy" in reference to such an operation. While I am not an advocate of gold and amalgam used in such a way, to any great extent, yet there are many cases I have seen where I believed it was the most practical and tooth-saving operation that I could perform. I know, and know it for a fact, that I can save teeth by the combination of gold and alloy in a cavity that I cannot save with either gold or alloy separately.

Years ago I adopted in my operations that principle in the filling like that (referring to model) which I would fill entirely with gold and



then make a small cavity in an obscure portion of that gold and put an alloy plug in it. Vice versa, if I filled with alloy, I would make a small hole somewhere and put in a gold plug. Simply for the same reason that manufacturers of expanding bars and jack screws which are used for regulating, drill a small hole in the steel and put in a zinc block. There is galvanic action set up there which has not yet been fully explained, but which will prevent the recurrence of decay about the margins almost certainly. Where you have a gold filling with a small alloy block, the gold will keep as bright as burnished gold all the time, but your alloy will be black.

The principle underlying it Dr. Grinnelle brought out in the story connected with it. Many years ago, up in New York State, a surgeon was called upon suddenly to go into the country to attend a farm hand who had fallen from a load of straw in the field and injured himself. The surgeon took with him his case of instruments; he found his patient alongside the fence, where he attended him, jumped into his gig and went about his business. Some week or two later he had another such case, and on looking for his instruments they were missing; he did not know where to find them, and thought of the last time he had used them, which was in the case of the farm hand. He went out to the place, and there were his instruments lying alongside the fence with the case open, and some of the instruments lying on the grass exactly as he had left them. He expected that the exposure to the weather would ruin them, and he found that all the blades of the instruments were covered with iron rust except the largest blade in the outfit, which was as clear of rust as it had ever been, and was uninjured except that it had been darkened in color. He thought over the matter for a long time, and wondered what the explanation of the phenomenon was. He found in the handle of that blade a blow-hole had been filled with zinc. That started him on a series of experiments, and he found that fact solved the problem, and today you will find that the jack screws and steel instruments placed in the human mouth are treated in the same way.

The same will hold true in your work; there is a galvanic current set up whereby teeth are preserved if those two metals are brought in contact with the same tooth, and contrary-wise, almost always you will find that if the gold filling on one tooth comes in contact with the alloy filling in an adjoining tooth, you will not only have pain but a rapid decay of both teeth around the margins.

So I get back to the point that I do not believe it is just or fair to call that operation "sloppy." The men who oppose it may be trying to escape the loss of time or extra work, or again may be trying to save their patient's teeth.



SOCIETY DISCUSSIONS

I make it my practice almost invariably where people come to me with an incisor, lateral or a cuspid, if the margins at the cervical portion or down the labial aspect are broken away at the back to ream that out and fill it with alloy in preference to gold, because I have such faith in the operation of the principle I have described to you that I feel that tooth will never have to be touched again.

I never have used soft gold; for a great many years I have used semi-cohesive gold, and semi-cohesive and non-cohesive gold are not the same.

Dr. Sutphen. For the last seven or eight years, instead of using cohesive gold in starting fillings, I have invariably used plastic gold, and have had very great comfort and satisfaction in its use, and in my hands it seems to fill the place of non-cohesive gold. It works almost as easily as amalgam; you can burnish it right into your undercuts, and they need to be very slight, no more than when using alloy; you are sure of success with hand pressure, and you are sure that your margins are not disturbed.

I would like to ask Dr. Hart when closing the discussion whether he does not think the use of plastic gold will give as good results as the use of non-cohesive gold.

Dr. Moore. For a great many years I have used the practice Dr. Hart has told us of tonight. I have used both cohesive and non-cohesive gold, and I have made it a practice to burnish down and finish the gingival margins. I think when that is done at the beginning of the filling it can be better reached than at any other time, and, as he said, you do not destroy the knuckle of your cavity.

And I have also practiced the method Dr. Luckey speaks of, even in upper central incisors, where the cavity has almost extended to half the surface of the tooth on the longitudinal side; and I find that combination has given me the best satisfaction.

As far as the building up of cavities is concerned, I think that all of us will do better to leave that to cohesive gold until we become thoroughly skilled with inlays.

Dr. Tredell. I have always believed in soft gold in the position the essayist speaks of tonight. Formerly I used a semi-cohesive gold and put the gold cylinders in the naked tooth at the cervical wall. In later years I became acquainted with plastic gold, and I guess was among the first to use it, and have kept on using it ever since. I fill the larger portion of this cavity with this gold and then finish with cohesive gold. It is said that the plastic gold can be brought out in contour and stand the stress, but I confess to you, gentlemen, I never had the courage to try it. I feel as though it



ITEMS OF INTEREST

might be a failure and might cause considerable trouble; but I have stuck to the cohesive gold in connection with the plastic gold.

Dr. Hart. Dr. Luckey said it was probable that he could do with cohesive gold what I contended was an advantage to do with non-cohesive cylinders combined with cohesive cylinders. I so stated in my first remarks; that any operator who was satisfied to fill entirely with cohesive foil could accomplish all I intended to; but I claimed that no operator starting and completing with cohesive cylinders could do what I could do with non-cohesive cylinders, combined with cohesive cylinders, as easily. There is where I take issue with Dr. Luckey.

Dr. Eaton referred to the anchorage of fillings with oxyphosphate of zinc. Of course it is proper to bring that into the discussion, but it was not in answer to anything I said, because I had made no statement concerning it.

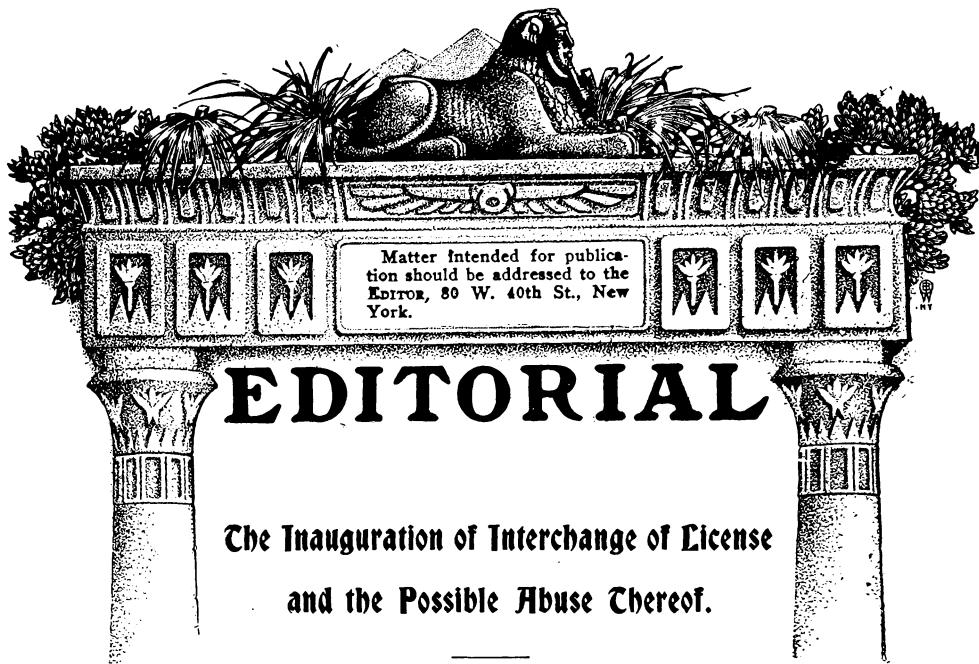
Dr. Eaton. I was only speaking of "sloppy" work.

Dr. Hart. I will admit, sir, that it is. But my preference for this method is along the line of mechanics. If you will observe modern plate glass windows you will find that where they are joined together a material is used which is softer than the two layers of plate glass; so it is with every joint of marble and metal that the plumber makes, for there some softer material is used, and I think that where we are going to mallet on a surface of that kind some washer to take off the heavy impact of the mallet is desirable, because unless such a filling is well malleted throughout its extent it will not save the tooth, and I think that a washer at the point indicated will take off the stress from the pericementum.

Dr. Meeker. Before Dr. Hart closes I wish he would name the manufacturer of a really non-cohesive gold.

Dr. Hart. Abbey is the only manufacturer of non-cohesive foil, and you cannot obtain the cylinders, you have to make your own cylinders. I have tried to get them to make cylinders, but they will not do it.

I beg your pardon, Dr. Sutphen, you asked me to speak of plastic gold. My experience with any of the sponge golds is that so long as they are enclosed between walls you can burnish; but you cannot burnish, that is, I cannot, any of the gold beyond the margin of the cavity; any gold lying beyond that margin under pressure gives way, and that is just what the cylinders do not do.



EDITORIAL

The Inauguration of Interchange of License and the Possible Abuse Thereof.

For years the cry has gone up that a professional man, desiring to change his place of residence, should have the right to do so, and to practice his profession in his new habitat. In this connection two perfectly just but conflicting rights are found to antagonize. First, there is the inherent privilege born to every man to select his place of abode, and in it to earn a livelihood for himself and family. To deny this to any one is to curtail the possibility of his being an honest factor in a community; for if a man be prohibited from gaining support by those means for which he has fitted himself, how then shall he find his bread and board?

Contrarily, there is the equal and higher right of the legal authorities to regulate all modes of industry, and especially such as deal with life and health, that the community may be protected from imposture and incompetency. To this end laws have been enacted stipulating that none may practice medicine or dentistry except those that qualify for license by proving their fitness before a legally appointed tribunal.

Theoretically the examining board is an entirely proper rational,



and we might even say necessary, institution. It is the true way of testing the product of the colleges, and there can be no denying that the fact that the holder of a diploma must submit himself to further examination before receiving a license to practice has had a most salutary effect in elevating the standards of dental education.

**Mal-administration
of
Examining Boards.**

Thus, by requiring that a licensed practitioner should measure up to a stated standard, it has logically followed that the colleges have been compelled to so educate their students that after graduation they would fit the measure. In this way the examining boards have had a subjective influence upon dental school work. Unfortunately this has not contented certain examiners, who either through honest but illogical desire to become factors in advancing dental education, or else intoxicated with the police powers entrusted to them, have essayed to go further and become objectively influential in directing the course of events. Whilst it was but natural that the colleges should obey without resistance the subjective influence of state examining boards, and to endeavor to produce "potatoes that would fill the peck," it is equally logical to find them resenting the assumption of power which has led ill advised examiners to attempt a course of dictation as to college courses, length of term, preliminary requirements, etc., etc., as evidenced by the article by Dr. Junkerman, published in this issue, together with the circular letter to which it is a response.

It is strange that examiners find it difficult to comprehend the legal limitations of their duties. They are appointed solely and only to determine whether a candidate for dental license has the ability to safely practice in the community. And here let it be said that it is no part of an examiner's work to catechise a man as though examining him for a degree in dentistry; he should endeavor only to learn whether each man have the minimum knowledge necessary for the safe beginning of practice, or the continuance in practice, as the case may be.

When Dr. Chas. Meeker was president of the National Association of Examiners he is reported to have said, during a discussion of this subject: "I cannot see what difference it makes so far as this association is concerned, whether the colleges have a five-year, a ten-year, or a ten-day



course. If a student comes before a board and he is fit to practice dentistry, the board should pass him, and give him the right to practice."

At the very next meeting of this somewhat erratic association a rule was passed aiming at coercing the colleges, the threat being that only such colleges as complied would be listed as "reputable." The circular letter from the committee on colleges is in furtherance of this rule, and appears to be in the nature of a threatened boycott, a trade union measure abhorrent to true American methods.

That there is a growing tendency to trades union **Abuse of Interchange of License.** methods by certain state boards furnishes food for grave consideration. We are in possession of information as to the conduct of certain boards, given to us confidentially, which we cannot print without endangering those who have confided in us. Is it not a disgrace that this should be true? Men of acknowledged standing in their profession, practitioners prominent in local and state dental societies, have been refused licenses in other states. One most conspicuous case cannot be more definitely mentioned because the gentleman wishes to "try again," and fears to irritate the examiners.

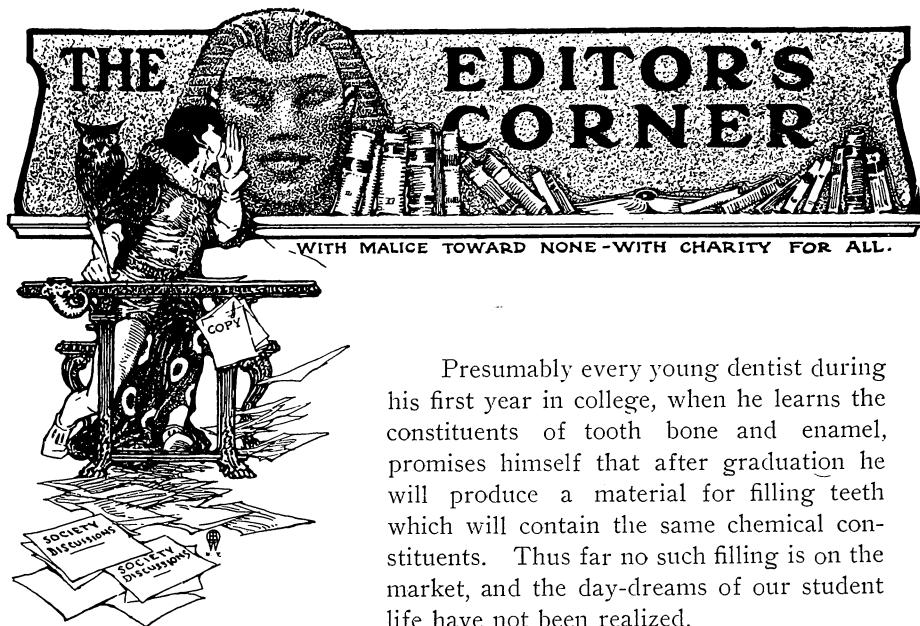
It was for this class of men, reputable practitioners of dentistry, desiring for legitimate reasons to move from one state to another, that the Asheville resolution was passed. It required that the applicant should have been five years in practice to become entitled to an interchange license. A few states, notably New Jersey, have adopted the rule, and thus the principle of interchange is inaugurated. Yet almost immediately, such is the selfishness of mankind, abuses of the rule are attempted. One dentist writes that as New Jersey exchanges with Michigan, and New York with New Jersey, and as he has a Michigan license he thinks he would like licenses from New Jersey and New York. Why should he have them? He does not even pretend that he is about to move from his present state, which is not Michigan, into either of those in which he desires a license.

In another case an applicant failed before the New Jersey board. Later he passed the Pennsylvania board; recently he asked for and received an interchange license from New York, and now asks for an interchange license from New Jersey, thus entering the very state before whose board he had failed to pass.



If the true purpose of the interchange of license be comprehended it will at once become apparent to the states that have adopted the Asheville resolution that no license should be granted under it unless the candidate shall have been in practice for five years in the state which recommends him. Moreover, no interchange license should be granted except to those about to begin practice within the state, and it should be made revocable if such practice be not inaugurated within a year, extensions to be granted for reasonable cause. No man should be granted an interchange license, whose sole purpose is to use it as a means of entering, without examination, some other state.





Presumably every young dentist during his first year in college, when he learns the constituents of tooth bone and enamel, promises himself that after graduation he will produce a material for filling teeth which will contain the same chemical constituents. Thus far no such filling is on the market, and the day-dreams of our student life have not been realized.

**Fused
Natural Enamel.**

After many years of experimentation, the dentists of today have at hand a material with which teeth can be filled so that their appearance is closely simulated, and now a very interesting communication comes from Dr. A. T. McMillan, of Little Rock, Ark., the Secretary and Treasurer of the State Board of Dental Examiners. He has made the discovery that the natural enamel can be fused approximately at 4,000° of heat, and he has sent us a specimen of this fused enamel, which in appearance very closely resembles marble. It is densely hard, very white, but unfortunately appears to be quite brittle. He has also sent specimens of his work as follows: First, a small lot of enamel which has not been heated high enough to make it fuse. At this stage it is a blue-gray ash. To produce this he placed the natural enamel taken from a tooth in a platinum cup, similar to that used in the Jenkins porcelain outfit, and burned it as much as possible with an ordinary gas blow-pipe. He then places this blue ash in an ingot cut in a piece of charcoal and fuses it with the oxy-hydrogen blowpipe, producing the result in a globular mass with a high glaze, color and appearance reminding one of a sperm candle. His third specimen represents the dentine of a tooth burned with the ordinary blowpipe. This resembles a blackish charcoal. He finds that the dentine also fuses, and his specimen somewhat resembles the fused enamel except that it is less transparent and more than ever has the appearance of candle grease. The bone used in an ordinary tooth-brush handle burns



into a whitish mass, which when fused at the higher heat closely resembles the result obtained with dentine. Whether or not it will be possible to make any practical use of tooth enamel or dentine as an ingredient for producing inlays for filling of teeth remains to be studied out by our chemists, but certainly Dr. McMillan has brought us an interesting problem.

Dr. Hart J. Goslee describes as follows the care which should be given to artificial dentures and dental bridgework:

Care of Artificial Dentures and Bridgework. “The duties which devolve upon the operator who constructs artificial dentures and dental bridges, and who is interested in the success of his own efforts, and in the welfare of his patients, do not cease upon the completion and insertion of the work, but demand the imparting to the patient of such instructions as to the care of the same as will promote the most favorable hygienic condition of the mouth which is possible under the circumstances.

“Those who are compelled to wear artificial dentures should be advised to thoroughly cleanse them *before* each meal, and afterward, also, if possible, with tepid water, a suitable brush and good soap, and to remove them upon retiring and place them in a glass containing some good potent antiseptic solution.

“The former is essential as a means of removing all accumulated and decomposing secretions, and should be observed more particularly before meals, than afterward, in order that the mouth may be free from such deleterious influences during the meal.

“Removal at night is equally as important as a means of allowing the tissues of the mouth to rest, and to assume their normal condition, thereby relieving the capillary congestion, and promoting the health of the parts, and also of keeping the denture itself in a thoroughly hygienic condition.

“The wearers of “fixed” bridgework—which is at best more or less unhygienic—should always be advised of this fact, and so forcibly impressed with the necessity for scrupulous care as to be made conscious of its importance.

“They should furthermore be instructed as to exactly how such care may properly be given. For the reasons mentioned a thorough cleansing of the mouth, and of all surfaces of the work, *previous* to each meal, should be recommended, and the proper style of brush and antiseptic solution should be prescribed.

“While many of the several mouth preparations will answer, *borine*, diluted by the addition of an equal part of water, has been found an effective and delightful agent for these purposes, and yet any agent, however potent, will fail to afford the desired results unless the patient has



been made familiar with the requirements, and is then faithful in observing them—much of which will always depend largely upon the dentist."

The Lewis and Clark Dental Congress has assumed larger proportions and bids fair to be no mean rival of the St. Louis Congress. The movement has developed so rapidly that it has become necessary to appoint committees in nearly every State in

the Union, a list of which is published in this number in the appropriate department. There seems to be no doubt that there will be a tremendous attendance from the West, with a prospect of very many visitors from the East. The societies of Oregon, Washington, California, Idaho and British Columbia have formally adjourned their meetings for this year in order that their entire membership may attend the Congress. From these five societies alone the management count upon an attendance of 1,000 dentists. It is also probable that the States of Utah and Colorado will adjourn their meetings.

The low railroad rates of \$56 round trip from Chicago, and \$45 round trip from Missouri River points, with 90-day limit on tickets, which will be good coming to the coast by one route and returning by another, will render the trip one of pleasure and interest. The Congress will close so as not to interfere with the attendance at the National Dental Association in Buffalo. The climate of Portland in July is ideal.

Accommodations for visitors may be secured, and rooms reserved in advance, by addressing the Hotel Portland, the Imperial Hotel and the Perkins Hotel, or in private houses from the Lewis & Clark Accommodation Bureau, which, under the supervision of the Fair officials, has secured a large number of desirable rooms at reasonable prices. The Stomatological Club will provide club rooms for the visiting dentists, where they can have headquarters, secure mail, etc.

It is to be hoped that a large number of our readers in the East will so arrange their vacation time as to include a trip to this Congress on the Pacific Coast.

Starr Parsons, D.D.S., M.D., of Washington,
A New Antiseptic. D. C., reports his experiences with Tyree's Antiseptic Powder as follows:

"I have used Tyree's Antiseptic Powder for the past four years, and have found it efficacious in the treatment of a variety of diseased conditions of the mouth and teeth. It can be used with good results in the treatment of abscess and pyorrhea alveolaris, and no dental surgeon can afford to be without it in his practice, as it can be used with safety and no bad after effects. In operating on necrosis of the superior and inferior maxillary bones, I have found it to give good results in washing

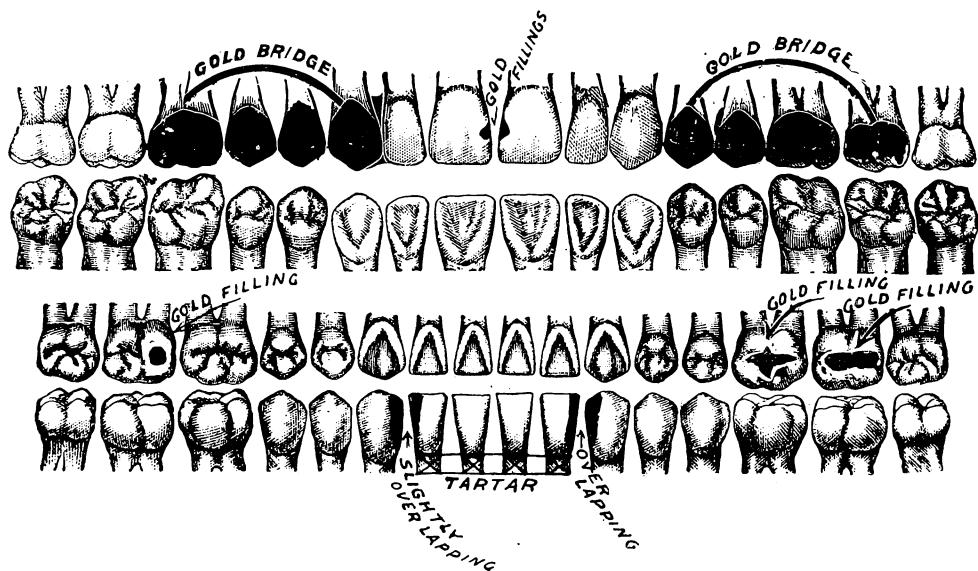
ITEMS OF INTEREST

out the pus with a syringe, containing a twenty-five per cent solution.

"After operating on a patient, particularly after extracting a tooth, when the dentist nearly always gets more or less blood on his fingers, it has been my custom to place some of the powder in the water and wash my hands with it to prevent inoculation."

**Identification
by the Teeth.**

It will be remembered that some years ago the editor pointed out the possible advantages of identifying bodies through dental charts, and at that time a body which had been misidentified by friends in this State was subsequently properly indentified by the dentist, who had kept an accurate chart of the murdered woman's mouth. This fea-



ture of identification is peculiarly interesting to the editor, who believes that he was the first to make the suggestion of publishing such matter in the dental journals, which has never heretofore been done. This was promulgated in a story entitled "The Phoenix of Crime," from the editor's pen. The chief of police at Colorado Springs has now adopted this means in an attempt to identify the body of a murdered woman found nude on Cutler Mountain. In addition to circulars which have been sent broadcast, he now requests publication of the chart and description in the dental magazines. It is to be hoped that the dentists will aid the authorities in discovering the identity of this woman, and thus assist in bringing to justice the brute who has thus cast aside his victim.

"The body was that of a woman well developed and apparently well



EDITOR'S CORNER

kept, but discolored from fire and exposure to the elements. The face, nose, lips, chin, left side of neck, both ears, shoulders and breasts burned so as not to be recognizable.

"She was probably between 25 and 35 years of age, weight about 120 or 130 pounds, height 5 feet 2 or 3 inches, light auburn or ash blonde hair, part of which was burned off; skin evidently fair, with no birth marks or scars showing; small bones, limbs well rounded, hips and thighs large, very small hands, nails clean, long and well manicured; feet small, toes even and straight, nails manicured; probably wore a number 2, 2½ or 3 shoe.

"Teeth.—The teeth were large, white and chalky. In the upper jaw on the right side the wisdom tooth had never developed; the second molar was present with no fillings. A bridge extended from the first molar to the cuspid. This bridge was of solid gold and worn on the linguo-mesial portion of the crown. The first and second bicuspid being absent, their places were supplied with solid dummies. Two gold fillings of medium size in the mesial of the upper centrals or incisors. The upper teeth protrude slightly. In the left upper jaw a gold bridge extended from the first bicuspid to the second molar; a peculiarity of this bridge is in the fact that the second molar is made of a bicuspid dummy. The third molar or wisdom tooth on this side is present. In the lower jaw on the right side the third molar or wisdom tooth is present, the second molar has a gold filling in the mesio-occlusal surface. The first molar is absent, evidently for some years, as the space is almost closed. Slight overlapping of cuspid on latteral. Pyorrhea of lower teeth—centrals and latterals—with considerable tartar, showing that they had not been cleaned recently. Left side—considerable overlapping of cuspid on latteral; all teeth present on left side lower jaw. First molar large gold filling on occlusal surface; second molar large gold filling on occlusal extending on to the distal surface; third molar or wisdom tooth undeveloped, that is, partially covered with tissue.

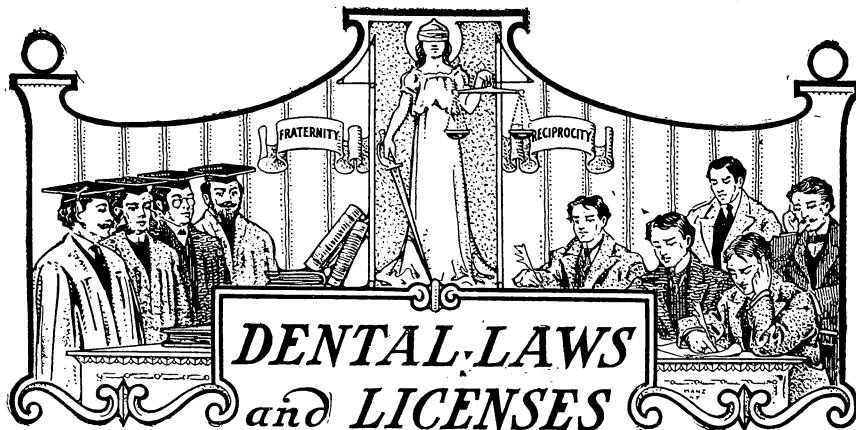
"All clothing, finger and ear rings, and all other means of identification had been removed from the body, and no trace of same have been found, and up to the present time we have been unable to identify her.

"The above description and diagram is the only evidence we have for identification."

Address all information and inquiries to

W. S. REYNOLDS, *Chief of Police.*

Colorado Springs, Colo.



DENTAL LAWS and LICENSES

A Dental "Boston Tea-Party."

By G. S. JUNKERMAN, M.D., D.D.S.,
Dean of the Cincinnati College of Dental Surgery, Dental Dept., Ohio University.

Lacking the blood colored seal, I have lying in front of me a copy of a warrant signed by the alleged dental police department, for the arrest of all colleges whose students do not possess high school diplomas and who do not stay in school four years. This warrant has been couched in semi-respectable language to slightly conceal a threat, in a wild desire to force the manufacture of a mould, into which all prospective dentists must fit; which mould is to be styled by the alleged police department "a preliminary dental educational standard." Without entering into the argument of the advisability of a dental preliminary educational standard so elevated as that prescribed by the dental police board, we should like to know upon what authority this police board acts.

There do not exist any national police laws, and consequently there cannot be any dental national police laws. The incorporation of a body does not constitute it a law-making body, but simply makes it amenable to the laws that already exist. The National Board of Dental Examiners, therefore, even though incorporated, cannot make laws except to govern their own body; and if State boards belong to this body they will still be subject to their own State laws, and no other, as far as carrying out the dental police laws in the States in which they are constituted. If, for example, in the State of Ohio the Board of Dental Examiners has the authority to fix a preliminary educational standard, and does so fix it to be a high school diploma and a four years' attendance, the people and dentists of Ohio have an appeal, for they can have

**N. B. D. E.
Lacks Authority.**



the laws changed or repealed altogether. The same will hold good in any State. In such a condition as this we have representation and can afford to pay the tax; but if all or any of our States, and through them the colleges, acknowledge the authority of the National Association of Dental Examiners we are subjecting ourselves to slavery and acknowledging the right of the principle against which our forefathers of the Revolution fought, namely, "Taxation without representation."

The Standard of the National Association of Dental Examiners may be right, but we cannot afford to accept such a standard through such a channel. A precedent like this being set would only open the doors for further demands, and from the same source. If a standard must be made let it be done by men who have grown gray in the cause of dental education. Men who have devoted their lives to a study of the subject, and not by those who hold their positions by political preferment only. What men are so well fitted to decide the question as the college men themselves? They have decided it, but it does not seem to please the self-constituted police board. If in the course of years laws have been passed many of which have been fathered by the heads of our dental schools, and which now prove to be irksome and inconsistent with the conditions as they exist today, the legislatures can be appealed to to change or annul them entirely. If the stand herein taken is true, and our colleges are so bound by existing laws as to be required to bow to the National Association of Dental Examiners, it is high time that the colleges were using their money and influence in the repudiation of the principle of "Taxation without representation," and in the organization of little "Boston tea-parties" in each State to bring about a realization of the facts to the minds of those who are trying to use an existing or alleged authority. Personally I am not very fond of tea, anyhow, and can very well afford to do without it; yet I am in favor of wise laws, police and otherwise, when administered justly and through the proper channels. As a dental educator I feel not from ability but from experience to be well able to pass good judgment on a man as to whether or not he will make a good acquisition to the dental profession.

**Proper Control
of Colleges.**

I feel by this time the thought has already arisen in the minds of those who may read this communication that colleges may not be honest in the conducting of such matters. If such is the case, and colleges are not honest in fixing a proper standard, let the legislatures be resorted to to punish such culprits, the same as is done in the case of other wrong-doers. For no other reason except bias or on the ground of dishonesty, can it be argued but that dental educators are the best fitted individuals for fixing requirements, whether for entrance or exit from a



ITEMS OF INTEREST

dental college. It is a matter of history that the dental educators of the country have always been first in advocating the passage of wise dental laws, but the mistake has been made that they have so rarely been called upon to administer these laws which they have been so earnestly engaged in passing. In the recent "embargo" promulgated by the National Association of Dental Examiners, that body assumes, in addition to being the court of last resort, to hold divine qualifications, since in asserting that no one should correct errors, it assumes immunity itself from committing them. If the sages of the profession have fixed the standard at four years, and then found that they have committed a grievous error in so doing, and return again to the three years' course, we believe that it is an additional indication of wisdom, rather to correct the error than to persevere in it. But the National Association of Dental Examiners contends that colleges have no right to correct an error and construe it as a manifestation of retrograde metamorphosis in dental education.

Length of College Course. The change from the three years' course to the four years was the mistake, and many reasons that are wise and good can be produced to show that the change to a three years' course was the correction of a grievous error. Dental teachers can appreciate this, but men blinded by prejudice and ignorance of the facts find themselves in no position but to construe such an act into a backward step. If the National Association of Dental Examiners has the power it assumes to have in its most recent communication to the dental colleges, and if legislation has placed this power with it, the time has arrived for the educational class of dentistry to go to their several States and have the laws repealed by their respective legislatures. This might also seem a retrograde movement in the eyes of the National Dental police board, but in times of war a rear attack may be resorted to if it brings victory.

At one of the meetings of the National Association of Dental Examiners that body passed a resolution which was the wisest act of its existence. Under this resolution the standing of colleges was to be fixed by the number of graduates that succeeded in passing the State boards. In this way all the colleges would be judged by their product, which is really the only just criterion of good educational work.

Test of Reputability. When the National Association of Dental Examiners assume so much responsibility as to announce as disreputable any institution whose product is first-class and up to legal requirements, because that institution does not require a high school diploma and four years' attendance, that body will have to be brought up with a jerk in the form of legal claims for damages, collectively and individually. It will be a



very difficult and unreasonable hypothesis to presume disreputability in connection with institutions of learning whose faculty and officers and all connection with it are men of reputation and acknowledged ability. The proofs of disreputable acts will be necessary, and no institution whose products are right can be declared disreputable by anybody or any set of laws; and when laws are used for any such purpose in this free country they will be declared unconstitutional.

It was not the original intention of this communication to take up the consideration of the adoption of a higher standard than that laid down by the National Association of Dental Faculties. There are many reasons why the standard should not be made higher than it is at present. One very good one which perhaps has never been discussed is that it will deprive many communities of the services of a dentist. Highly cultured men will not take up dental missionary work in obscure communities, and it would be better for such communities to have some kind of a dentist practicing in a legal way, even if he could not present a high school diploma as part of his recommendation.

In conclusion I would like to say that in the light of experiences, it would seem that the National Association of Dental Examiners are construing the dental laws for the purpose of persecuting dentists instead of prosecuting persons not entitled to practice dentistry. This board might find itself both busy and happy if it would devote itself to closing bogus dental schools and curtailing the power of unprincipled quacks. The great evils seem to have escaped the attention of the National Association of Dental Examiners, and if the laws are not strong enough to encompass the prosecution of the evils, this board would do better in using their energy to having the laws properly framed, rather than trying to persecute the highest dental educational interests of the profession.

**Circular Letter from the Committee on Colleges, N. A. D. E.,
to the Deans of Colleges.**

In consideration of the conflicting views as to dental educational standards which have existed for some time, the National Association of Dental Examiners at its annual meeting held at St. Louis, August, 1904, deemed it expedient and necessary for the upholding of such schools as sought to maintain the standards already published to the world as the



minimum that should obtain, to declare what educational standards should be required by the State Boards of Examiners as a criterion of reputability of the schools seeking recognition of their output.

This *ad interim* committee, which is also the Committee on Colleges, was instructed to inform all schools of the action taken, and directed to prepare a recommended list of colleges on the basis of the standards established at that meeting.

Feeling fully the gravity of the duty imposed, this committee has expended much effort in striving to arrive at a basis of fairness to all interests concerned in carrying out its general instructions. The chief requirement established at St. Louis was that of "graduation from an accredited high school or its full equivalent" for admission to the classes of 1905-6.

In several schools and university departments this requirement is already in actual operation, and our committee finds a considerable number of other schools desiring to maintain it. All these, of course, will be placed on the recommended list. There are, however, other schools whose deans assert that to enforce at once this advance requirement would work a serious financial injury to their institutions.

The question of what should constitute a proper length of course for graduation from dental college has always been left by the examiners to the colleges themselves, except that, after a school has announced to the public a certain course as necessary to properly fit a student for graduation, if it for private or financial reasons deliberately lowers its requirements in any particular, the question of good faith and reputability of that school becomes at once a matter for adjudication by every board in the country.

We, therefore, acting upon authority of, and, *ad interim*, representing the National Association of Dental Examiners, which is the advisory body of the various State boards in their official acts, respectfully request that you authorize the Committee on Colleges to place your school on the recommended list of colleges by the acceptance of the following educational requirements for students, viz.:

For matriculation or registration, "Graduation from an accredited high school or its full equivalent, all examination of credentials and equivalents to be placed in the hands of an acceptable appointee of the State Superintendent of Public Instruction where not otherwise provided for by law," said requirements to be inaugurated not later than the beginning of the school year of 1906-7; and a college course for graduation optional with you of either four years of seven months each or three years of nine months each, this course requirement to be inaugurated the present year, 1905.



It is to be expected that schools maintaining these standards will be protected in so doing by the several boards composing the National Association of Dental Examiners.

It is the intention of this committee to prepare and publish the recommended list of colleges not later than April 1 next, in order to give all schools the earliest opportunity to announce these standards to the public. Therefore information as to your decision is desired as early as possible.

Dated Feb. 14, 1905.

Requirements for Licenses and Dates of Examinations.

Secretaries of State Boards are requested to keep us constantly posted in regard to dates and places of examinations or changes in their laws that this department may be kept up to date.

Examination required, with or without diploma.

Alabama. Examination fee \$10. No special examination granted to practitioners already in practice. No interchange of license with any States. Examinations annually on the first Monday before the second Tuesday of each year. Secretary, Dr. Thomas P. Whitby, Selma, Ala.

Arizona. Secretary, Dr. Wm. G. Lentz, Fleming Block, Phoenix, Ariz.

Arkansas. Examination with or without diploma; applicants must attain an average of 75 per cent to pass.

Oklahoma. Examination fee \$5. No special examination granted to practitioners already in practice; no temporary licenses. Oklahoma reports interchange with Arkansas, but the secretary of Arkansas reports no interchange as yet. Examination at Texarkana May 22, 23. Secretary, A. T. McMillin, 5th and Main streets, Little Rock, Ark.

California. Examination required with or without diploma. Examination fee \$25. No special examination granted to practitioners already in practice. No interchange of license with any States. Examinations, San Francisco, June 12; Los Angeles, June 19. Secretary, C. A. Herrick, Jackson, Amador Co., Cal.

Colorado. Examination granted to holders of diploma only. Examination fee \$10. No special examination granted to practitioners already in practice. No interchange of license with any States. Examinations first Tuesdays of June and December, at Denver. Secretary, Dr. M. S. Fraser, 407 Mack Building, Denver, Colo.



The Secretary of the Connecticut Board furnished the information asked, in the form of a circular, of which the following is a copy.

Questions and answers relating to the examinations for license to practice dentistry in Connecticut:

Ques. Can a man who has studied under a preceptor for three years take the examination? Ans. Yes.

Ques. Can a man who has been in actual practice three years or more take the examination? Ans. Yes.

Ques. Can a graduate of a reputable dental college take the examination? Ans. Yes.

Ques. Can a senior student take the examination? Ans. No.

Ques. Will the Commissioners furnish questions asked in other examinations? Ans. No.

Ques. Will the Commissioners issue a temporary permit to practice dentistry, pending the regular examination? Ans. No, not under any consideration.

Ques. Will the Commissioners grant private examinations? Ans. No.

Ques. Will the Dental Commissioners of the State of Connecticut accept a license from another State, in lieu of an examination? Ans. No.

Ques. Will Connecticut interchange licenses with other States? Ans. No, there is no provision in Connecticut's Dental Law allowing an interchange of licenses.

Examination fee, \$25.

The Dental Commissioners of the State of Connecticut hereby give notice that they will meet at Hartford, on Thursday, Friday and Saturday, June 8, 9, 10, 1905, respectively, to examine applicants for license to practice dentistry, and for the transaction of any other proper business.

The practical examination in operative and prosthetic dentistry will be held Thursday, June 8, at 8:30 a. m., in Putnam Phalanx Armory, corner Haynes and Pearl streets.

The written theoretic examination will be held Friday and Saturday, June 9, 10, at the Capitol.

All applicants should apply to the Recorder for proper blanks, and for the revised rules for conducting the examinations.

Application blanks must be carefully filled in and sworn to, and with fee, twenty-five dollars (\$25) filed with the Recorder on or before June 1, 1905.

By direction of the Dental Commissioners.

J. TENNEY BARKER, Recorder,
Wallingford, Conn.



ITEMS OF INTEREST

Examination and diploma required in all cases.

Delaware. Examination fee \$10; \$1 for a certificate. All applicants for certificates come under the same conditions. No interchange of license with any other States. Examinations first Wednesdays in January, April, July and October. Place of meeting given when applicant writes for the information. Secretary, C. R. Jefferis, New Century Bldg., Wilmington, Del.

District of Columbia. Examination with or without diploma. Examination fee \$10. Reciprocal interchange of license with the State of New Jersey in accordance with the provisions of the Asheville resolution. Examinations semi-annually. Secretary, Dr. W. E. Dieffenderfer, Colorado Bldg., Washington, D. C.

Florida. Examination required with diploma. Examination fee \$10. No special examination for practitioners already in practice. Interchange of license with States whose laws are equal to Florida. Examination Monday, May 29, at Seabreeze. Secretary, W. G. Mason, Tampa, Fla.

Idaho. Examination required with or without diploma. Examination fee \$25. No special examination granted to practitioners already in practice. No interchange of license with any States. Secretary, Dr. W. W. Paling, Mackey, Idaho.

Illinois. Examination required without a diploma. Diploma required but no examination. Examination fee \$10. No special examination required for practitioners already in practice. No interchange of license with any other State. Examinations twice each year, usually in May and October. Exact date not yet known for 1905. Secretary, Dr. J. G. Reid, 67 Wabash Avenue, Chicago, Ill.

Indiana. Applicants for examination must possess diploma from recognized college or must have had five years' dental practice under a reputable practitioner of this State. Examination fee \$20. No special examination granted to practitioners already in practice. Reciprocal interchange of license with the State of New Jersey in accordance with the provisions of the Asheville resolution. Examinations, June 13, at Indianapolis. Applications for examinations must be made to the secretary on June 8th. Secretary, Dr. F. R. Henshaw, Middletown, Ind.

Iowa. Examination required with diploma. Examination fee \$20. No special examination granted to practitioners already in practice. No interchange of



ITEMS OF INTEREST

license with any States. Examination May 2, 3, at Capitol Building, Des Moines. Secretary, Dr. E. D. Brower, Le Mars, Ia.

Kansas. No examination required if applicant has a diploma from a reputable college; otherwise examination required. Examination fee \$10. No special examination granted to practitioners already in practice. No interchange of license with any States. Examinations at Topeka, May 15-17. Secretary, Dr. M. I. Hults, Hutchinson, Kan.

Kentucky. Examination required with diploma. Examination fee \$20. No special examination granted to practitioners already in practice. No interchange of license with any States. Examinations first Tuesday in June and December in Louisville. Secretary, Dr. C. R. Shacklette, 628 Fourth Avenue, Louisville Ky.

Louisiana. Examination required with diploma. Examination fee \$25, payable in advance. No special examination granted to practitioners already in practice. No interchange of license with any States—Board has the matter under consideration. Examinations twice annually in New Orleans, first examination on the day following the commencement exercises of the New Orleans College of Dentistry, which this year will be on May 6th. Second examination occurs on the first Tuesday after the third Monday in October, this year, Oct. 17th. Secretary, treasurer and attorney, L. A. Hubert, 137 Carondelet street, New Orleans, La.

Maine. Examination required with or without diploma. Examination fee \$20. No special examination granted to practitioners already in practice. No interchange of license with any States. Examination, June 21, 22. Secretary, Dr. Dana W. Fellows, Portland, Me.

Maryland. Examination required with diploma. Examination fee \$10. No special examination granted to practitioners already in practice. No interchange of license with any State. Examinations occur twice annually in Baltimore. In 1905 May 15, 16, and Nov. 6, 7. Secretary, F. F. Drew, 701 N. Howard street, Baltimore, Md.

Massachusetts. Examination required with or without diploma. Examination fee \$20 for first examination, subsequent examinations \$5. No special examination granted to practitioners already in practice. No interchange of license with any States. Examinations June 21, 22, 23, and October 25, 26, 27. Secretary, Dr. G. E. Mitchell, Haverhill, Mass.



Examination required with or without diploma.

Michigan. Examination fee \$10. Practitioners already in practice may have a special examination before any member of the Board which will enable him to practice until the next regular meeting of the Board, when a regular examination must be taken. Reciprocal interchange of license with New Jersey in accordance with the provisions of the Asheville resolution. Examinations, May 16, at Ann Arbor. Secretary, Dr. C. H. Oakman, 29 State street, Detroit, Mich.

Diploma must be presented from a dental college in good standing or satisfactory evidence must

Minnesota. be given of having been engaged in the practice of dentistry as early as April, 1879. Examination fee \$10. No special examination granted to practitioners already in practice, and the Board has no power to grant temporary license of any kind. No interchange of license with any States. Examinations first Tuesday in April and October. Special session held in June. Held at Dental Department of the State University at Minneapolis. Secretary, C. H. Robinson, Wabash, Minn.

Examination required with or without diploma.

Mississippi. Examination fee \$10. Practitioners already in practice will be granted an examination by any member of the Board, who is authorized to issue a temporary license which will be valid until the next succeeding meeting of the Board. Only one temporary license shall ever be issued to the same applicant. Secretary, Dr. P. P. Walker, Brandon, Miss.

Examination with or without diploma. Examination fee \$25. No special examination granted to

Missouri. practitioners already in practice. No interchange of license with any States. Examinations second Tuesday in May and October at the Senate Chamber at Jefferson City. Secretary, S. C. A. Rubey, Clinton, Mo.

Examination with or without diploma. Examination fee \$25. No special examination granted to

Montana. practitioners already in practice. No interchange of license with any States. Examination June 20. Secretary, D. J. Wait, Helena, Mont.

Registers diploma from recognized colleges

Nebraska. without examination, all others required to take examination. Examination fee \$10; fee for registering diploma \$2.50. No special examination granted to practitioners already in practice. No interchange of license with any States. Examinations—no special date, but are set when application is made. Secretary, Dr. D. A. Meese, Auburn, Nebr.



Nevada. Examination required if without diploma. Examination fee \$10. No special examination granted to practitioners already in practice. No interchange of license with any States. Secretary, C. A. Coffin, Reno, Nevada.

New Hampshire. Examination required with or without diploma. Examination fee \$10. No special examination granted to practitioners already in practice except by agreement of the full Board. No interchange of license with any States. Examinations, June 13, 14, 15 at the New Manchester House, Manchester. Secretary, A. J. Sawyer, Manchester, N. H.

New Jersey. Applicant must be a graduate of a reputable dental college and hold a high school diploma or a certificate from the State superintendent of public instruction, Professor Baxter, Trenton, N. J. Examination fee, \$25. Reciprocal interchange of license with Utah, Tennessee, Indiana, Michigan and Vermont, in accordance with the provisions of the Asheville resolution, and by special agreement with New York. Examinations July 11, 12, 13, and December 12, 13, 14. Theoretical branches in the Assembly Chamber, Trenton, N. J. Practical operative work at the office of C. S. Stockton, 7 Central avenue, Newark, on a date assigned by him. Practical prosthetic work at the office of Dr. A. Irwin, 425 Cooper street, Camden, N. J., on a date assigned by him. Secretary, Dr. Charles A. Meeker, 29 Fulton street, Newark, N. J.

New York. Diploma from a registered school is necessary for admission to the dental licensing examination. Applicants who have had six years' practice in dentistry may on unanimous recommendation of the Board receive a license to practice in this State provided they meet the necessary professional and preliminary requirements. Examination fee \$25. Reciprocal interchange of license with New Jersey and Pennsylvania. Examinations, May 16, 17, 18, 19; June 20, 21, 22, 23; September 26, 27, 28, 29. Chief, Charles F. Wheelock, Examinations Division, New York State Education Department, Albany, N. Y.

North Carolina. Examination with or without diploma. Examination fee \$10. No special examination granted to practitioners already in practice. No interchange of license with other States. Examination—June 26, 27, 28 at Waynesville. Secretary, R. H. Jones, Winston-Salem, N. C.

North Dakota. Examination required with or without diploma. Examination fee \$10; additional fee for license, \$5. No special examination granted to practitioners already in practice. No interchange of license with any States. Examina-



tion, second Tuesday in July. Secretary, H. L. Starling, Fargo, N. D.

Ohio. The Board will register without examination all graduates of the Ohio colleges who make proper application and pay the required fee of \$10 prior to the June, 1905, session of the Board; all other applications must be graduates and pass examination before they can practice legally in Ohio. Examination fee \$20; registration fee \$10. There is an exemption clause which permits the Board to register a person who has been in practice in the State of Ohio continuously since January 1, 1903; this must be verified by evidence. Examinations for 1905 will be held June 27, 28, 29 and November 28, 29, 30, in Columbus. Application should be filed with the secretary 10 days prior to examination. Secretary H. C. Brown, 185 East State street, Columbus, Ohio.

Oklahoma. Examination required if without diploma. Examination fee \$10. No special examination granted to practitioners already in practice. Reciprocal interchange of license with Arkansas. Examination—May 10. Secretary, A. C. Hixon, Guthrie, Okla.

Oregon. Examination required with diploma. Examination fee \$10. No special examination granted to practitioners already in practice. No interchange of license with any States. Examination May 8th; also in November in Portland. Secretary, O. D. Ireland, 614 Dekum Building, Portland, Ore.

Pennsylvania. Examination required with diploma. Examination fee \$15. No special examination granted to practitioners already in practice. Reciprocal interchange of license with New York. Examinations in June and December, 1905. Secretary, C. N. Schaeffer, Harrisburg, Pa.

Rhode Island. Examination in all cases. Examination fee \$20. No special examination granted to practitioners already in practice. In regard to interchange the Board has recommended an amendment to the law giving the board discretion. Examination June 27, 28, 29, Providence. Secretary, P. J. Heffern, 255 Main street, Pawtucket, R. I.

South Carolina. Examination with or without diploma. Examination fee \$15. No special examination granted to practitioners already in practice. No interchange of license with any States, but is not opposed to a satisfactory plan of exchange. Examination July 14, at White Stone Springs. Secretary, Dr. B. Rutledge, Florence, S. C.



Applicants for examination must have diploma

South Dakota. or must have had three years' practice immediately preceding examination. Examination fee \$10; license fee \$5. No special examination granted to practitioners already in practice. No interchange of license with any States. Examination, July 11, Mitchell. Secretary, G. W. Collins, Vermillion, S. D.

Tennessee. Registers diploma without examination and examines all others. Examination fee \$5. No special examination granted to practitioners already in practice. Reciprocal interchange of license with Tennessee, in accordance with the provisions of the Asheville Resolution. Secretary, F. A. Shotwell, Rogersville, Tenn.

Texas. Registers diplomas and examines all others. Examination fee \$10. Temporary licenses granted to holders of diplomas between meetings of the Board: good until the following meeting. Temporary licenses granted to others after an examination by any member of the Board. Good until the next meeting of the Board. Fee for temporary license \$2. Examination, Austin, May 15, 1905. Secretary, C. C. Weaver, Hillsboro, Texas.

Utah. Examination required with or without diploma. Examination fee \$25. No special examinations granted to practitioners already in practice. Reciprocal interchange of license with New Jersey in accordance with the provisions of the Asheville resolution. Examination not yet fixed. Usually April and October. Secretary, H. W. Davis, 511-513 McCormick Block, Salt Lake City, Utah.

Vermont. Examination required in all cases. Examination fee, \$25. No special examination granted to practitioners already in practice. Board is empowered to make interchange of license, in accordance with the Asheville Resolution. Interchanges with New Jersey. Secretary, G. F. Cheney, St. Johnsbury, Vt.

Virginia. Examination required with or without diploma. Examination fee \$10. No special examination granted to practitioners already in practice. No interchange of license with any States. Examination second Tuesday in June, at Richmond, Va. Secretary, R. H. Walker, Norfolk, Va.

Washington. Examination required with diploma. Examination fee \$25. No special examination granted to practitioners already in practice. No interchange of license with any States. Examinations in May and November; this year May 22, at Vancouver. Secretary, W. A. Fishburn, Ellensburg, Wash.



Examination required with or without diploma.

West Virginia. Examination fee \$10. No special examination granted to practitioners already in practice. No interchange of license with any States. Examination, Morgantown, June 7, 8 and 9. Secretary, H. M. Van Voorhis, Morgantown, W. Va.

Examination required with diploma. Examination

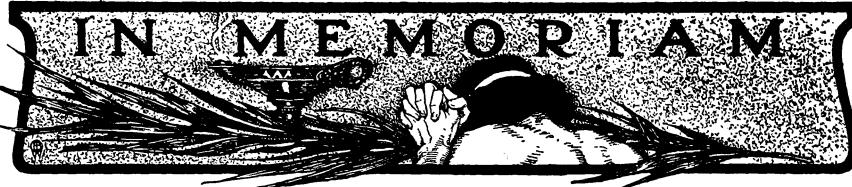
Wisconsin. fee \$10. Dentists who have practised for four years or have been apprenticed to a reputable dentist for five years are entitled to examinations. No special examination granted to practitioners already in practice. No interchange of license with any States. Examination in June. Secretary, J. J. Wright, 1218 Welles Building, Milwaukee, Wis.

Louisiana Board.

It having been brought to our attention that several colleges would hold their commencement exercises on the day already fixed by this Board for examinations and as this would necessarily work a hardship and be a detriment to some of the graduates from those colleges, who may desire to practice in Louisiana, the board has decided to hold the examinations beginning on the 6th of May instead of the 4th of May as heretofore announced.

C. A. HERBERT, *Secretary and Atty.*





Dr. Aaron Dawes

Died February 18 at his home in Hightstown, N. J., in the eighty-sixth year of his age.

He was the son of Janney Dawes, and was born at Readington, Hunterdon County, N. J., on November 19, 1819. Selecting dentistry as his profession, he studied under a dentist in Taylorsville, Pa., and in 1840 moved to Hightstown, where he practiced a short time. Failing in health, he went South, where he practiced at Savannah and New Orleans. Later, returning to Hightstown, he opened an office, and also one at Tom's River. He was a pioneer in dentistry, and if not the first dentist in the State, very nearly the first. He always prided himself on his instruments, which he mostly made himself.

In his early practice he also made and baked all of his porcelain teeth, of which he had moulds of different sets and combinations.

His gold and silver dentures and old-time fillings of sixty years ago are not surpassed and rarely equaled by the present dentist.

He was a member of the first Borough Council of Hightstown in 1853, and was four times elected its mayor.

In 1858 Dr. Dawes married Miss Josephine Van der Burg, who survives him, as do three adult sons, one of whom is Dr. Tracy H. Dawes, of Somerville, N. J. Possessed of keen financial insight, a wide knowledge of affairs and a clear understanding of men, his counsel and aid in public matters were eagerly sought, and he held for many years a high place as one of the foremost citizens of Hightstown, and in his youth and prime played a large part in its development.

Dr. Dawes was highly respected as a man of sterling integrity, and those who knew him personally found in him a genial companion, a gentleman of wide information and shrewd humor, and prized him for his many high qualities of mind and heart.

The town loses an honored citizen, his family a devoted husband and father, and many more will mourn the loss of a very kind and helpful friend.

Dr. Ben Abe McGee.

Dr. Ben Abe McGee departed this life, at his residence in Denver, Colo., January 15, 1905, of heart failure.



IN MEMORIAM

He was born at Bloomington, Ind., July 26, 1851. After completing the course of the public schools, he graduated from the University of Indiana. He entered the practice of dentistry in his home town in 1875. He attended one course of lectures in the Ohio College of Dental Surgery, Cincinnati, Ohio, after which he located at Rockport. Two years later he returned to Bloomington, where he engaged in the practice of his profession until 1894. In the fall of 1886 he returned to the Ohio College of Dental Surgery, where he completed the course, graduating in 1887. He removed to Colorado in 1894, locating in Salida for a short time, and then in Denver, where he remained in active practice to the day of his death. He was married to Miss Alice Norman in Louisville, Ky., in 1872. He is survived by his wife, one daughter, and one son, Dr. Rea P. McGee, who was associated with him in the practice of dentistry. Three months prior to his decease he was subjected to a deep bereavement in the death of his eldest son, Norman McGee, from which he never fully recovered. He served the State of Colorado six years as a member of the Board of Dental Examiners. He was president of the Colorado State Dental Association at the time of his death; ex-member of the Indiana State Dental Association; honorary member of the Kentucky State Dental Association; ex-member of the National Dental Association, and an active member of the Denver Dental Association.

His early life to that of mature manhood was passed in the great educational center of Indiana, which seemed to have a decided influence upon his life, so much so that he became an enthusiast upon the subject of education. A cherished belief was that every boy and girl should receive a liberal education for their protection, and for the good of society. He believed that education should be the common inheritance of all. The dental profession has lost a valued member, one who had no secrets in dentistry, a kind and genial friend. Although we bow with humble reverence to God's all wise decree and dispensation, we cannot but feel deeply grieved by the sudden taking away in the bloom of usefulness of one who was an honor to his State and profession. As long as we love our profession, as long as devotion and loyalty to it, so long will the memory of our brother abide in the heart of the members of our association. Though dead, the fame of Dr. Ben A. McGee is secure. To wife, daughter and son who bear the heavy cross, and the full measure of sorrow, we offer our deepest sympathy, our kindest solace.

FERNANDO H. SUTHERLAND,
EUGENE R. WARNER,
WILLIAM A. RAYMOND,
Committee,
Colorado State Dental Association.



SOCIETY ANNOUNCEMENTS

National Society Meetings.

Lewis & Clark Dental Congress, Portland, Ore.,
July 17-20.

National Dental Association, Buffalo, N. Y.,
July 24.

National Association of Dental Examiners,
Buffalo, N. Y., July 24.

National Association of Dental Faculties, Buffalo, N. Y., July 27.
Northeastern Dental Association, Rutland, Vt., Oct. 18-19.

State Society Meetings.

Alabama Dental Association, Gadsden, May 9-12.

Connecticut State Dental Association, New Haven, April 18-19.

Delaware State Dental Society, April 5.

Florida State Dental Society, Sea Breeze Beach, May 31.

Illinois State Dental Society, Moline, May 9, 10, 11.

Indiana State Dental Association, Indianapolis, July 27-29.

Iowa State Dental Society, Des Moines, May 2, 3, 4.

Kansas State Dental Association, Topeka, May 18-20.

Kentucky Dental Association, Lexington, May 15, 16.

Maine Dental Society, Portland, July 18, 19, 20.

Massachusetts Dental Society, Boston, June 7, 8.

Minnesota State Dental Association, Minneapolis, June 1, 2, 3.

Mississippi Dental Association, Jackson, April 18, 19, 20.

Missouri State Dental Association, St. Louis, May 24-26.

Nebraska State Dental Society, Lincoln, May 16, 17, 18.

New Jersey State Dental Society, Asbury Park, July 19, 20, 21.

New York State Dental Society, Albany, May 12, 13.

Pennsylvania State Dental Society, Philadelphia, June 27, 28, 29.

South Dakota State Dental Society, Mitchell, June.

Texas State Dental Association, Austin, May 18, 19, 20.

Vermont State Dental Society, Rutland, March 15, 17.

Wisconsin State Dental Society, Oshkosh, July 18, 19, 20.



National Association of Dental Examiners.

The annual meeting of the National Association of Dental Examiners will be held at the Iroquois Hotel, Buffalo, N. Y., commencing 10 a. m., Monday, July 24, 1905, and continuing until adjournment.

The rates per day for single rooms will be \$1.50, \$2 and \$2.50; \$3 and \$4 for double rooms; \$3 to \$3.50, rooms with bath. The sessions will be held in commodious rooms in the hotel. Write early and secure your room. Arrangements for members from the East for reduced excursion rates have already been made with the fast trains on the Delaware & Lackawanna R. R., leaving New York 10 a. m., 6:10 p. m., 8:45 p. m. and 2 a. m. It is earnestly requested the secretaries of the boards will communicate at once any change in members' names and addresses.

CHARLES A. MEEKER, D.D.S., *Sec'y.*

29 Fulton street, Newark, N. J.

National Association of Dental Faculties.

The annual meeting of the N. A. D. F. will be held at Buffalo, commencing at 2 p. m. on Thursday, July 27, 1905. The Executive Committee will meet at 10 a. m., same day. Special business to come before the N. A. D. F. is the consideration of the proposed revision of the constitution and by-laws.

J. B. TILESTON, *Chairman Ex. Committee.*

JOHN I. HART, *Sec'y.*

Lewis & Clark Dental Congress, Portland, Ore., July 17 to 20.

State Committees.

Alabama.—Honorary Chairman, Jas. A. Hall, Collingsville; Committee on Essays, H. C. Hassell, Tuscaloosa; Committee on Clinics, T. P. Whitby, Selma; Committee on Membership, Geo. S. Vann, Gadsden.

Arkansas.—Essays and Clinics, Wm. H. Buckley, Little Rock; Committee on Membership, Chas. Richardson, Fayetteville.

Connecticut.—Honorary Chairman, Jas. McManas, 80 Pratt St., Hartford; Committee on Essays, E. S. Gaylord, 1110 Chapel St., New Haven; Committee on Clinics, Chas. McManas, 80 Pratt St., Hartford; Committee on Membership, J. Tenny Barker, Wallingford.

Delaware.—Essays and Clinics, W. L. Grier, Milford; Committee on Membership, C. R. Jeffries, 1016 Delaware Ave., Wilmington.



ITEMS OF INTEREST

District of Columbia.—Essays and Clinics, Jno. H. London, 1115 G St., N. W., Washington; Committee on Membership, W. F. Finley, 1928 I St., N. W., Washington.

Florida.—Essays and Clinics, J. E. Chase, Ocala; Committee on Membership, W. G. Mason, Tampa.

Georgia.—Committee on Essays, H. H. Johnson, Macon; Clinics and Membership, T. P. Hinman, 22½ S. Broad St., Atlanta.

Illinois.—Honorary Chairman, G. V. Black, Lake and Dearborn Sts., Chicago; Honorary Chairman, E. S. Talbot, 100 State St., Chicago; Committee on Essays, J. G. Reid, 67 Wabash Ave., Chicago; Committee on Clinics, D. M. Gallie, 100 State St., Chicago; Committee on Membership, A. H. Peck, 92 State St., Chicago.

Indian Territory.—Committee on Clinics, C. W. Day, Vinita; Committee on Membership, S. E. Lang, S. McAlester.

Indiana.—Honorary Chairman, G. E. Hunt, 131 E. Ohio St., Indianapolis; Essays and Clinics, J. Z. Byram, 131 E. Ohio St., Indianapolis; Committee on Membership, M. A. Mason, 130 W. Wayne St., Fort Wayne.

Iowa.—Committee on Clinics, W. R. Clack, Clear Lake; Committee on Membership, Wm. Finn, Cedar Rapids.

Kansas.—Honorary Chairman, A. H. Thompson, Topeka; Committee on Essays, Frank Hetrick, Ottawa; Committee on Clinics, Geo. A. Estery, Lawrence; Committee on Membership, C. B. Reed, Topeka.

Kentucky.—Honorary Chairman, W. E. Grant, Masonic Bldg., Louisville; Essays and Clinics, Max Eble, Equitable Bldg., Louisville; Committee on Membership, J. Richmond Wallace, 750 Third St., Louisville.

Louisiana.—Essays and Clinics, C. Victor Vignes, 830 Canal St., New Orleans; Committee on Membership, Jules J. Sarrazin, 531 Canal St., New Orleans.

Maine.—Committee on Membership, H. A. Kelly, 609 Congress St., Portland.

Maryland.—Honorary Chairman, B. Holly Smith, 1007 Madison St., Baltimore; Committee on Clinics, W. G. Foster, 9 N. Frankland St., Baltimore; Committee on Membership, C. J. Grieves, Park and Madison Sts., Baltimore.

Massachusetts.—Honorary Chairman, W. E. Boardman, 184 Boylston St., Boston; Committee on Clinics, C. W. Rodgers, 165 Harvard St., Boston; Committee on Membership, J. W. Dowsley, 175 Fremont St., Boston.

Michigan.—Honorary Chairman, Geo. L. Fields, Fife Bldg., Detroit; Clinics and Membership, Henry C. Raymond, Majestic Bldg., Detroit.

Minnesota.—Honorary Chairman, E. K. Wedelstadt, N. Y. Life



Bldg., St. Paul; Committee on Clinics, A. C. Searl, Awatonna; Committee on Membership, Jas. E. Wierick, 138 E. 6th St., St. Paul.

Mississippi.—Committee on Essays, W. E. Walker, Bay St. Louis; Committee on Clinics, W. O. Talbot, Biloxi; Committee on Membership, T. B. Wright, Coffeeville.

Missouri.—Honorary Chairman, Burton Lee Thorpe, 3666 Olive St., St. Louis; Committee on Essays, J. P. Root, Deardorff Bldg., Kansas City; Committee on Clinics, D. O. M. Le Cron, New Trust Bldg., St. Louis; Committee on Membership, E. E. Haverstick, Boyle and Maryland Sts., St. Louis.

New Jersey.—Honorary Chairman, Chas. A. Meeker, 29 Fulton St., Newark; Committee on Clinics, Chas. S. Stockton, 7 Central Ave., Newark; Committee on Membership, R. M. Sanger, East Orange.

New York.—Honorary Chairman, H. J. Burkhart, Batavia; Honorary Chairman, Wm. Carr, 35 W. 46th St., New York City; Committee on Essays, R. H. Hofheinz, Chamber of Commerce, Rochester; Committee on Clinics, Ellison Hillyer, 472 Greene Ave., Brooklyn; Committee on Membership, Jno. I. Hart, 118 W. 55th St., New York.

North Carolina.—Honorary Chairman, V. E. Turner, Raleigh; Committee on Essays, E. J. Tucker, Roxboro; Committee on Clinics, Chas. L. Alexander, Charlotte; Committee on Membership, J. A. Gorman, Asheville.

Ohio.—Honorary Chairman, L. P. Bethel, 1255 Neil Ave., Columbus; Committee on Essays, L. L. Barber, The Spitzer, Toledo; Committee on Clinics, Henry Barnes, New England Bldg., Cleveland; Committee on Membership, H. C. Brown, 185 E. State St., Columbus.

Pennsylvania.—Honorary Chairman, J. A. Libbey, 500 Penn. Ave., Pittsburgh; Honorary Chairman, Wilbur F. Litch, 1500 Locust St., Philadelphia; Honorary Chairman, S. H. Guilford, 1728 Chestnut St., Philadelphia; Committee on Essays, E. C. Kirk, P. O. Box 1615, Philadelphia; Committee on Clinics, H. B. McFadden, 3505 Hamilton Ave., Philadelphia; Committee on Membership, J. T. Lippincott, 1483 Walnut St., Philadelphia.

South Carolina.—Clinics and Membership, L. P. Dotterer, 102 Broad St., Charleston.

Tennessee.—Hon. Chairman, J. Y. Crawford, Jackson Bldg., Nashville; Committee on Essays, A. R. Melindy, Deaderick Bldg., Knoxville; Committee on Clinics, J. P. Gray, 212 N. Spruce St., Nashville; Committee on Membership, R. Boyd Bogle, 623½ Church St., Nashville.

Texas.—Honorary Chairman, Jno. W. David, Corsicana; Committee on Essays, J. G. Fife, Dallas; Clinics and Membership, M. S. Merchant, Giddings.



Virginia.—Committee on Essays, L. M. Cawardin, 407 E. Main St., Richmond; Committee on Clinics, F. W. Stiff, 600 E. Grace St., Richmond; Committee on Membership, H. W. Campbell, Suffolk.

Wisconsin.—Honorary Chairman, C. C. Chittenden, 21 W. Main St., Madison; Essays and Clinics, G. V. I. Brown, 445 Milwaukee St., Milwaukee; Committee on Membership, E. A. Catterdam, Third and Main Sts., La Crosse.

Hawaii.—Honorary Chairman, J. M. Whitney, Honolulu; Clinics and Membership, M. E. Grossman, Honolulu.

Canada.—Committee on Essays, A. E. Webster, 3 College St., Toronto; Clinics and Membership, Edward Abbott, 13 College St., Toronto.

Mexico.—Clinics and Membership, Jose J. Rojo, No. 2 Plateros, City of Mexico.

California State Dental Association.

At a meeting of the Board of Trustees of the California State Dental Association held in San Francisco February 10, it was unanimously decided to adjourn the State meeting for 1905, in favor of the Lewis and Clarke Dental Congress, to be held in Portland, July 17, 18, 19, 20.

JOSEPH LORAN PEASE, *Corresponding Sec'y.*
Central Bank Building, Oakland, Cal.

Fifth District Dental Society of the State of New York.

The thirty-seventh annual meeting of the Fifth District Dental Society of the State of New York will be held in the Yates Hotel, Syracuse, on Tuesday and Wednesday, April 11 and 12. The first session will be called to order promptly at 2 p. m. on Tuesday. An interesting program has been prepared. Dr. Wm. Jarvie will be in attendance at the meeting.

Rome, N. Y.

E. A. SMITH, *Sec'y.*

Lake Erie Dental Association.

The annual meeting of the Lake Erie Dental Association will be held at Hotel Rider, Cambridge Springs, Pa., May 16, 17 and 18. The executive committee expects to present a program of papers and clinics of un-



SOCIETY ANNOUNCEMENTS

usual excellence. All reputable dentists are invited to meet with the Association at this famous health resort.

V. H. McALPIN, *Sec'y.*

Warren, Pa.

Mississippi Dental Association.

The next meeting of the Mississippi Dental Association will be held at Jackson, April 18, 19 and 20.

E. N. BINGHAM, *Sec'y.*

Pontotoc, Miss.

Delaware State Dental Society.

The next meeting of the Delaware State Dental Society will be held on Wednesday, April 5.

R. H. JONES, *Sec'y.*

Wilmington, Del.

Harvard Odontological Society.

The Harvard Odontological Society held its annual meeting at Young's Hotel, Boston, on Saturday evening, February 25. There was a reception and dinner, followed by an illustrated lecture, entitled "In Shakespeare's Country," by the Rev. Geo. W. Kent, of Providence, R. I. Music was furnished by Mrs. Winifred Powell. The officers elected for the ensuing year are: Pres., Dr. Ned E. Stanley; Rec. Sec'y, Dr. John W. Estabrooks; Cor. Sec'y, Dr. Arthur H. Stoddard; Treas., Dr. H. Winchester Hardy; Editor, Dr. Robert Whitehill; Executive Committee, Dr. John W. Estabrooks, Dr. Wm. P. Cooke, Dr. Syman F. Bigelow.

ARTHUR H. STODDARD, *Sec'y.*

Boston, Mass.

New York State Dental Society.

The thirty-seventh annual meeting of the Dental Society of the State of New York will be held at Albany, N. Y., Friday and Saturday, May 12 and 13, convening at 10 o'clock, on the morning of the first day, in Assembly Hall, at the Hotel Ten-Eyck, where the Committee of Arrangements have made special rates for all attending the convention.

In addition to the papers and reports, a large number of clinics will be given by some of the ablest members of the profession, altogether



making this a most interesting and instructive meeting, one of which no dentist in this State can afford to miss.

A cordial invitation is extended to all members of the profession, and it is hoped that every member may be in his place at the beginning of the opening session.

Special railroad rates have been secured for this meeting. Ask for a special certificate when you purchase your ticket. Without it you cannot have the benefit of the reduced rates on the return trip.

The Committee of Arrangements are planning for an exhibit of old and curious dental instruments, odd and abnormal models, etc., old books, pictures, instruments, etc. All members are requested to bring to the meeting anything antique or interesting to the profession, or same may be forwarded to Dr. J. L. Appleton, Albany.

There will be a large exhibit of dental supplies. For information regarding exhibits address Dr. J. L. Appleton, 89 Columbia street, Albany, N. Y.

PROGRAM.

In addition to the regular reports of the standing and special committees, the officers and business committee present the following list of essayists for the thirty-seventh annual meeting. Subjects will be announced in the regular notice.

President's Address, William Jarvie, M.D.S.

Correspondent's Report, Ellison Hillyer, D.D.S.

Report of Committee on Practice, A. L. Swift, D.D.S.

Report of Committee on Scientific Research, F. W. Low, D.D.S.

Paper, "A Field for Women in Dental Practice," by Edwin T. Darby, D.D.S., Philadelphia.

Paper, "The Chemistry of Pulp Decomposition with Reference to the Discoloration of the Teeth, Including a Rational Treatment for the Correction of the Putrescent Condition," by J. P. Buckley, D.D.S., Chicago.

Paper, "Ethics," by A. H. Peck, D.D.S., Chicago.

Paper, "Dentistry Today," by S. G. Perry, D.D.S., New York.

Paper, Subject to be Announced, by W. T. Reeves, D.D.S., Chicago.

Paper, Subject to be Announced, by I. N. Broomell, D.D.S., Philadelphia.

Paper, "Our Society: A Study and Appeal," by C. W. Stainton, M.D.S., D.D.S., Buffalo.

WILLIAM JARVIE, M.D.S., *Pres.*

WILLIAM C. DEANE, *Sec'y.*

616 Madison avenue.



British Dental Association.

The Dominion Line, sailing from Montreal, will give special rates to dentists going across on May 6 on Steamer "Dominion," to attend the convention of the British Dental Association to be held in Southport, May 20-23, and to which the National Dental Association of the United States and the Canadian Dental Association have been invited.

Montreal, Canada.

E. DUBEAU.

The Woman's Dental Association.

At the annual meeting of the Woman's Dental Association, held at 201 South 12th street, Philadelphia, March 4, 1905, the following officers were elected for the year 1905-1906: Emily W. Wyeth, president; H. Belle Whitcomb, vice-president; Rebecca Ranch Cornish corresponding secretary; Eliza Yerkes, recording secretary; Elizabeth A. Davis, treasurer; executive committee, Francis Crouch, Annie L. Lacht, Martha Corkhill, Anna K. Leaming, Matilda Groth.

ELIZA YERKES, *Rec. Sec'y.*

Rhode Island State Board of Registration in Dentistry.

At a meeting of the Rhode Island State Board of Registration in Dentistry held February 11, Forrest G. Eddy, D.M.D., was elected president, and Walter S. Kenyon secretary for the ensuing year.

W. S. KENYON, *Sec'y.*

Providence, R. I.

Connecticut State Dental Association.

The forty-first annual convention will be held in the Y. M. C. A. building, New Haven, Conn., Tuesday and Wednesday, April 18 and 19, 1905. The members of the New Jersey State Dental Association; Central Dental Association of New Jersey; First District Dental Society of the State of New York; Second District Dental Society of the State of New York; Odontological Society of New York; Institute of Stomatology of New York; New York, Vermont, Massachusetts and Rhode Island State Dental Societies are invited to attend.

The program will be as follows:



Dr. Sol. Freeman, New York City—"The Use of Compressed Air in Operative Dentistry."

Dr. Joseph Head, Philadelphia—"The Best Methods of Inserting Adhesive Gold and Amalgam Fillings."

Dr. C. N. Johnson, Chicago—"Differences in the Preparation of Cavities for Fillings and Inlays."

Dr. M. L. Rhein, New York City—"The Technic of Pulp Removal and Root Treatment Associated Therewith."

Dr. J. Tenney Barker, Wallingford, Conn., Recorder State Board of Dental Examiners—"Dental Legislation."

Dr. L. Ashley Faught, Philadelphia—Subject to be announced.

Also a large number of clinics.

Bridgeport, Conn.

F. HINDSLEY, *Sec'y.*

Dental Commissioners of Connecticut.

The Dental Commissioners of Connecticut hereby give notice that they will meet at Hartford on May 27, 1905, as prescribed by law, and will adjourn to June for the summer examinations, so as to enable those students who do not finish their college or other educational course until June, an opportunity to secure a license to practice without the long delay now made necessary because of being required to wait until the following year.

By direction of the Dental Commissioners.

J. TENNEY BARKER, *Recorder.*

Wallingford, Conn.

